NEW ENGLAND DISTRICT

The New England District comprises all of New England except western Vermont and small portions of Massachusetts and Connecticut along their western boundaries, and includes small portions of southeastern New York. These areas are all embraced in the drainage basins tributary to Long Island Sound and the Atlantic Ocean east of the New York-Connecticut State line. The District also includes Fishers Island, NY.

IMPROVEMENTS

Navigation

Beach Erosion Control

Flood Control

Flood Control (Continued)

Environmental

General Investigations

Tables

Navigation

1. AUNT LYDIA'S COVE, CHATHAM, MA

Location. Aunt Lydia's Cove is located in Chatham Harbor, Chatham, Massachusetts. The cove is located on the "elbow" of Cape Cod approximately 90 miles southeast of Boston, Massachusetts.

Existing project. Provides for an entrance channel 8 feet deep and 100 feet wide for a length of 900 feet and a 9.5-acre anchorage also to a depth of 8 feet. Work was completed in June 1995. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. The Chatham Municipal Fish Pier is the only terminal facility in Aunt Lydia's Cove. Initially constructed in 1945, the pier is used to offload catch, access boats, load supplies and perform some repairs. Two independent fish companies lease space at the pier's main packing facility where fish are offloaded, packed in ice and shipped to various distributors. The pier provides diesel fuel, gasoline, parking and restroom facilities. Transient and recreational boaters use the pier for loading, offloading, and refueling. This facility is adequate for existing commerce.

Operations during fiscal year. Maintenance: Maintenance dredging of the Federal channel was performed by the Government-owned dredge CURRITUCK from June 9 to July 8, 2001 at a plant rental cost of $354,000. A total of 65,400 cubic yards of sand were removed and placed in a nearshore disposal area southeast of the dredging area and outside the outer bar. A minor amount of material was placed at a nearshore area off Andrews Harding Beach. Hired labor costs included $30,000 for plotting pre- and after-dredge surveys and $14,344 for project coordination and management. Costs of $10,000 were incurred by the Waterways Experiment Station (WES) to study the inlet evolutionary trends, regional sand management and navigation channel stability.

2. BOSTON HARBOR, MA

Location. Boston Harbor includes all expanse of tidewater lying within a line from Point Allerton to Point Shirley and extending from that line westward to the mainland. This comprises an area of about 47 square miles, exclusive of the islands. (See National Ocean Service Coast Survey Charts 13270 and 13272.)

Previous project. For details see the Annual Reports for 1915, 1917, and 1938.

Existing project. Completed work at Boston Harbor, adopted in 1825 and supplemented by enactments through 1958, provides for the improvement of the harbor proper and its approaches - Fort Point Channel, Reserved Channel, Chelsea River and Weir River. For a more detailed description see page 3 of the Annual Report for 1974. These improvements were completed in May 1966 with the construction of the Chelsea River 35-foot channel and maneuvering basin. New work involves deepening the Mystic River and Reserved Channels from 35 to 40 feet and the Chelsea River Channel from 35 to 38 feet; widening and deepening to 40 feet the Inner Confluence Area which provides access to the Mystic and Chelsea River Channels; and widening at the entrance to the Reserved Channel. The proposed project would increase the navigational efficiency and safety of harbor operations and reduce tidal delays for larger vessels. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work. A Project Cooperation Agreement was signed on February 13, 1998 between the Corps and the Massachusetts Port Authority for the new work. Consistent with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must pay 25 percent of the costs allocated to deep draft navigation during construction; reimburse an additional ten percent of the costs allocated to deep draft navigation within a period of 30 years following completion of construction (partially offset by a credit allowed for the value of lands, easements, rights-of-way, relocations and dredged material disposal areas); relocate utilities necessary for construction of the project; and deepen berthing areas at the terminals of project beneficiaries.

Terminal facilities. There are 156 wharves and piers in the harbor, not including Mystic, Weymouth-Fore, and Town Rivers, which are reported elsewhere. Of the terminals, 28 are publicly owned, 13 are open to public use, 73 have mechanical-handling facilities, and 70 have railroad connections. Facilities are considered adequate for existing commerce. For a full description of channel facilities in Chelsea River, refer to House Document 350, 87th Congress, 2nd session. (See Port Series No. 3, Part 2, Port of Boston, MA dated 1967.)

Operations during fiscal year. New work: A contract for improvement dredging was awarded May 18, 1998. Work began in August 1998 and was completed in May 2000, except for rock removal in the upper Chelsea River Channel and deepening beneath the McArdle Street Bridge and over the Massachusetts Water Resources Authority's Section 8 waterline. Rock removal in the upper Chelsea River Channel began in June 2001 and was completed in September 2001. Approximately 6,000 cubic yards of rock

and 6,700 cubic yards of improvement material were removed.

Maintenance: Maintenance dredging was performed in conjunction with improvement work. Work was completed in May 2000 except for dredging of silt material beneath the McArdle Street Bridge. This work was completed in September 2001. A total of 2,735 cubic yards of maintenance material was removed from the McArdle Street Bridge area. Funds in the amount of $288,192 were expended on a sampling and testing contract for proposed maintenance dredging of the outer Main Ship Channel.

3. BRIDGEPORT HARBOR, CT

Location. Bridgeport Harbor is located on the north shore of Long Island Sound, about 51 miles east of New York City. (See National Ocean Service Coast Survey Chart 12369.)

Previous project. For details see page 1756 of the Annual Report for 1915 and page 133 of the Annual Report for 1938.

Existing project. For a description of the completed improvements see the Annual Report for 1668. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work. There is no reasonable prospect that required cooperation will be forthcoming from local interests for the breakwaters at Black Rock Harbor and the Burr and Cedar Creek anchorages. For further details see the Annual Report for 1968.

Terminal facilities. There are 35 waterfront facilities serving the port of Bridgeport. Three wharves are owned by the City of Bridgeport and three others may be used by the public upon agreement with the owners or operators. (See Port and Terminal Facilities of Southern New England No. 4, revised in 1952.) Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Hired labor costs of $9,754 were incurred for completing a Preliminary Environmental Assessment, initiated last FY, in association with proposed maintenance dredging of the Federal project. Contract costs of $99,905 were incurred for initial sampling and testing to evaluate entrance channel sediment suitability for unconfined open water disposal.

4. CAPE COD CANAL, MA

Location. This waterway is a sea level canal; extending from the head of Buzzards Bay, Massachusetts, easterly to a point on Cape Cod Bay about 15 miles southeast of Plymouth Harbor, Massachusetts. (See National Ocean Service Coast Survey Chart 13246.)

Existing project. For a description of existing project see the Annual Report for 1975. Navigational improvements were completed in April 1963, with completion of the East Boat Basin extension. Initial recreational development consists of public use facilities at various locations, which were completed in February 1965. Improvements to public use facilities at the East Boat Basin were completed in May 1974. Construction of public use facilities at Bourne Scenic Park were completed in May 1976. Cape Cod Canal is crossed by two high-level highway bridges and a vertical-lift railroad bridge. Major rehabilitation of Bourne Highway Bridge was completed in December 1965 and major rehabilitation of the Sagamore Highway Bridge was completed in 1982. Minor rehabilitation of the stone breakwater was completed in October 1963. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work. Local interests must also bear 50 percent of future recreational development in accordance with the 1965 Federal Water Project Recreation Act.

Terminal facilities. There are seven terminals on the canal, of which three are privately owned. Four are used for receipt and freezing of fish and two are used for receipt and storage of oil. The seventh terminal is the State pier, which is owned by the Commonwealth of Massachusetts, and is located on the north bank of the canal at Bourne Neck. Terminals are adequate for existing commerce.

Operations during fiscal year. Major rehabilitation: A contract for Phase I rehabilitation of the Buzzards Bay Railroad Bridge was awarded on 4 August 2000. Phase I work involves repairing or replacing steel members and painting the superstructure. Work began in April 2001 and was about 25 percent complete with contractor earnings of $3,268,369.

Maintenance: The cost of operation and maintenance work at the Cape Cod Canal totaled $9,506,907. Operation and maintenance work included $3,770,812 for navigation features, $2,114,550 for recreational facilities, $58,892 for natural resources, and $213,584 for the Buzzards Bay Railroad Bridge. Other costs include $52,443 for general real estate activities; $168,338 for inspection of the Bourne and Sagamore Highway Bridges; $115,613 for dredging of the west approach channel; $10,897 for work on the master plan; $58,710 for engineering and design; $17,823 for contract administration; and $288,161 for supervision and inspection of contracts, including those described below. A contract to repair docks and mooring dolphins was awarded on 8 September 2000. Work began in late September 2000 and was about 85 percent complete at FY end. Contractor earned $571,311 this FY, for a contract total of $597,128. A

contract for concrete and pavement repairs on the Bourne and Sagamore Highway Bridges was awarded on 27 September 1999. Work began in October 1999 and was about 90 percent complete at FY end with contractor earnings of $2,616,878, of which $288,522 was earned this FY. A contract for repairs to the east entrance breakwater was awarded on 5 August 1999. Work began in September 1999 and was completed in October 2000. Contractor earned $184,930 this FY for a contract total of $1,141,257. Final contract payment was still pending at FY end. A contract for deck repairs and paving of the Bourne and Sagamore Highway Bridges was awarded 31 March 2000. Work began in April 2000 and was about 60 percent complete at FY end with contractor earnings of $2,109,276, of which $1,592,321 was earned this FY.

5. COCHECO RIVER, NH

Location. The Cocheco River is located about 9 miles northwest of Portsmouth, New Hampshire.

Existing project. Provides for a 7-foot tidewater channel 60 to 75 feet wide (7.5 feet deep and 50 feet wide in rock), extending from the confluence of the Cocheco and Piscataqua Rivers to the head of navigation at the Upper Narrows in Dover, New Hampshire. Work was completed in 1906. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. The channel is used primarily by recreational craft based at a marina located near the head of the waterway.

Operations during fiscal year. Maintenance: Contract costs incurred in association with proposed maintenance dredging of the Federal channel were $16,451 for geotechnical investigations and $348 for printing of sampling results. Hired labor costs included $2,423 for continued work on an environmental assessment, $21,552 for preparation of plans and specifications, $4,520 for survey crew to assist with geotechnical investigations and $17,003 for project coordination.

6. GREAT SALT POND, BLOCK ISLAND, RI

Location. Great Salt Pond is located on the west shore of Block Island, about 11 miles southwest from Point Judith Harbor, Rhode Island and 18 miles southeasterly from Stonington Harbor, Connecticut. (See National Ocean Service Coast Survey Chart 13217.)

Existing project. Provides for an entrance channel 18 to 25 feet deep and 150 to 300 feet wide from the Atlantic Ocean to Block Island Pond; a riprap jetty extending 1,691 feet along the southerly side of the entrance channel; and a stone revetment and sand fences to protect the shoreline and beaches. The south jetty was completed in 1905. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. None required for completed work.

Terminal facilities. There is one wharf with about 600 feet available for public berthing and several privately owned and operated wharves and piers. Facilities are considered adequate for present harbor activities.

Operations during fiscal year. Maintenance: Contract costs of $21,243 were incurred to cover additional dredging quantities of about 1,400 cubic yards for work completed last FY. Hired labor costs included $3,202 for contract supervision and inspection and $238 for contract closeout.

7. GREEN HARBOR, MA

Location. Green Harbor is located within the town of Marshfield on the west-side of Massachusetts Bay, about 30 miles southeast of Boston, Massachusetts, and 9 miles north of Plymouth Harbor, Massachusetts. (See National Ocean Service Coast Survey Chart 13253.)

Existing project. For a description of the existing project see the Annual Report for 1995. Construction was completed in October 1969. A portion of project was deauthorized by the Water Resources Development Act of 1999. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. The major terminal facility is the Town Pier in the village of Brant Rock. The facility is a bulkheaded, earth-filled landing and parking area about 290 feet wide, extending 210 feet into harbor. A marina service is south of the Town Pier; and a facility for recreational craft has been developed on the south side of the harbor near the head of navigation.

Operations during fiscal year. Maintenance: Maintenance dredging of the entrance channel was performed by the Government-owned dredge CURRITUCK from May 15 to June 8, 2001 at a plant rental cost of $309,000. About 29,100 cubic yards of sand and cobbles were removed and placed in a nearshore site off Green Harbor Beach. Hired labor costs included $8,160 for performing and plotting pre-and after-dredge surveys, and $13,754 for project coordination and management.

8. HYANNIS HARBOR, MA

Location. Hyannis Harbor is located along the south shore of Cape Cod, about 16 miles west of Chatham, Massachusetts. (See National Ocean Service Coast Survey Chart 13237.)

Existing project. For a description of the existing project see the Annual Report for 1992. New work involved deepening the Federal channel and basin to 13 feet; realigning the entrance channel through the outer Harbor to straighten the approach and eliminate two difficult turns; and widening the channel to 240 feet from the outer Harbor through most of Lewis Bay and to 220 feet from the upper reach of Lewis Bay to the entrance of the Inner Harbor. New work was completed in March 1999. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. There are two town wharves in the inner harbor. One has a bulkhead frontage of about 800 feet. Other private landings are available. Facilities are adequate for existing commerce.

Operations during fiscal year. New work: Due to the limited environmental window for dredging work, construction was carried out in two phases. Phase I construction, consisting solely of improvement dredging of the realigned entrance channel, was completed in March 1998. A contract for Phase II construction was awarded August 19, 1998. Work began in September 1998 and was completed in March 1999. Phase II consisted of deepening the channel and basin to 13 feet and channel widening. Maintenance and municipal berth dredging was performed in conjunction with this work. Costs for improvement dredging under Phase II totaled $1,983,586. The Woods Hole, Martha's Vineyard and Nantucket Steamship Authority provided the non-Federal share of improvement project costs including channel improvements and the improvement portion of disposal facilities. The Town of Barnstable and Massachusetts Department of Environmental Management provided the full cost of dredging and disposal for associated municipal berth dredging under the terms of a Memorandum of Agreement, which totaled $425,609. During this FY, final project costs were apportioned between the Federal, non-Federal and maintenance accounts.

Maintenance: Final contract amount for maintenance dredging completed last FY was $1,167,157. An adjustment of $68,419 was made to balance improvement and maintenance dredging costs. The Woods Hole, Martha's Vineyard and Nantucket Steamship Authority and the Massachusetts Department of Environmental Management provided the non-Federal share of the maintenance portion of disposal facility costs, which totaled $39,033.

9. KENNEBEC RIVER, ME

Location. The Kennebec River flows from Moosehead Lake in northern Maine about 150 miles southerly and discharges into the Atlantic Ocean at Popham Beach in Phippsburg, about 25 miles east of Portland, Maine. (See National Ocean Service Coast Survey Chart 13298.)

Previous project. For details see the Annual Reports for 1915 and 1938.

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1992.

Local cooperation. None required.

Terminal facilities. Wharves suitable for landing or loading are at Bath, Woolwich, Richmond, Randolph, Gardiner, Hallowell and Augusta. Rail connections are available at some wharves. Depths range from 12 to 25 feet. Many facilities are equipped with a mechanism for handling passengers and freight. Facilities are considered adequate for existing commerce.

Operations during fiscal year. Maintenance: A contract for maintenance dredging of the Doubling Point and North Sugarloaf Island reaches of the 27-foot Federal channel was awarded on December 1, 2000. Work by the hopper dredge ATCHAFALAYA began on December 11, 2000 and was completed four days later. A total of 19,900 cubic yards of sand were removed and placed in a deep area of the river near Bluff Head and in a nearshore area off Jackknife Ledge. Hired labor costs included $9,999 for preparation of plans and specifications, $24,974 for performing and plotting pre- and after-dredge surveys, $13,290 for contract supervision and inspection, $1,027 for contract administration, and $14,984 for project coordination and management.

10. LITTLE HARBOR, NH

Location. Little Harbor is located on the west side of Portsmouth Harbor between New Castle Island and the New Hampshire mainland.

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1976.

Local cooperation. None required.

Terminal facilities. One dock owned by Wentworth Hotel, but not available to public. Tentative State plans include a small boat landing and shore facilities.

Operations during fiscal year. Maintenance: A contract for dredging of the Federal channel and anchorage was awarded on November 22, 2000. Work began on December 13, 2000 and was completed on March 13, 2001. About 40,500 cubic yards of sand were mechanically removed from the project and placed offshore of Wallis Sands State Beach at a contract cost of $774,964. To mitigate for eelgrass losses resulting from maintenance dredging, a second contract was awarded on July 9, 2001 to replant 5.5 acres of eelgrass. Eelgrass planting was done at three sites, 2.5 acres in Little Harbor, 1.5 acres at Kittery Point and 1.5 acres north of Pierce Island. Work was initiated in August 2001 and completed the following month at a contract cost of $363,070. Contract includes monitoring of eelgrass plantings over the next FY.

11. LYNN HARBOR, MA

Location. Lynn Harbor is located about 8 miles northeast of Boston Harbor. It is a natural harbor at the head of Broad Sound and is about 3 miles long and 1.5 miles wide. (See National Ocean Service Coast Survey Chart 13275.)

Previous project. For details see page 37 of the Annual Report for 1934 and page 52 of the Annual Report for 1994.

Existing project. Provides for a channel 22 feet deep and 300 feet wide from deep water west of Bass Point, Nahant, to and including a turning basin 550 feet wide at the head of the harbor. The project also provides for a Western Channel leading to the Saugus River 8 feet deep and 150 feet wide. Construction of the project was completed in 1935. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Conditions of local cooperation in connection with the existing project, which provide that local interests shall deepen to 25 feet the channel previously dredged by them to a depth of 22 feet; and contribute $8,000 towards the cost of deepening the widened turn into the Municipal Channel to that depth, have not yet been complied with.

Terminal facilities. There are seven marinas in the harbor, one that is open to the public. There are also four public launching ramps and two town docks.

Operations during fiscal year. Maintenance: A continuing contract for maintenance dredging of the 8-foot Western Channel was awarded on August 1, 2000. Dredging commenced in September 2000 and was completed in March 2001. A total of 24,700 cubic yards of fine sand were removed by mechanical dredge from the area seaward of General Edwards Bridge. Material was disposed of at the Massachusetts Bay Disposal Site (MBDS) at a contract cost of $590,000. This work was accomplished in conjunction with improvement dredging of the Saugus River.

12. NEW BEDFORD AND FAIRHAVEN HARBOR, MA

Location. New Bedford Harbor is a tidal estuary located on the western side of Buzzards Bay, about 27 miles northwesterly from the harbor at Vineyard Haven, Massachusetts and about 37 miles east of Point Judith Harbor, Rhode Island. (See National Ocean Service Coast Survey Chart 252.)

Previous projects. For details see the Annual Reports for 1915 and 1938.

Existing project. Provides for a channel 30 feet deep and 350 feet wide from deep water in Buzzards Bay to just above the New Bedford-Fairhaven Bridge, nearly 5 miles, with increased widths for anchorage and maneuvering purposes in the area northwest of Palmer Island and above the bridge; a channel 25 feet deep and 200 to 250 feet wide along the New Bedford wharf front near the bridge, about 0.2 miles; a channel 15 feet deep and 150 to 400 feet wide from Pierce and Kilburn Wharf to the Old South Wharf, then 10 feet deep and 150 feet wide to a point 1,000 feet south of the old causeway pier, about 0.7 miles; and for the maintenance of the 25-foot anchorage area east of the channel north of Palmer Island. The project was completed in 1939. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work

Terminal facilities. There are 31 wharves in the harbor with a total berthing space of about 19,000 feet. Seven are publicly owned, five have railroad connections and seven have mechanical handling facilities. These facilities are considered adequate for existing commerce.

Operations during fiscal year. Maintenance: Work on a Dredged Material Management Plan (DMMP) in conjunction with the Massachusetts Office of Coastal Zone Management was deferred awaiting State's report. Hired labor costs of $2,265 were incurred for project coordination and management.

13. PLYMOUTH HARBOR, MA

Location. Plymouth Harbor is located about 45 miles south of Boston, Massachusetts. Its outer anchorage, the "Cow Yard" is common to Plymouth, Duxbury, and Kingston, Massachusetts. (See National Ocean Service Coast Survey Chart 13253.)

Previous projects. For details see the Annual Reports for 1915 and 1938.

Existing project. Provides for riprap along sections of Long Beach damaged by the storm of November 1898 and restoring the Eel River to its former course; a channel 18 feet deep and 200 feet wide, increased at the entrance and on curves, from the bay to the town wharves, a distance of about 2.5 miles, with a suitable turning basin at the inner end; a channel 15 feet deep and 150 feet wide extending northwesterly about 0.3 miles from the State Pier with a 15-foot turning basin 300 feet square at its northwesterly end; maintenance of the area dredged by the Commonwealth of Massachusetts to 18 feet deep connecting the 15-foot and 18-foot channels in the vicinity of the State Pier; a rubble stone breakwater extending 1,400 feet easterly thence 2,100 feet southeasterly from the town wharf; an 8-foot anchorage, 60 acres in area, inside the breakwater; and recreational development to provide for sport fishing from the breakwater, consisting of a stone causeway about 360 feet long extending from the westerly end of the breakwater to land, a guardrail along the top of the breakwater, a footbridge spanning the navigation opening through the breakwater, parking and sanitary facilities. Construction of the 8-foot anchorage was completed in 1967. Construction of the breakwater along with rehabilitation of Long Beach Dike was completed in 1971. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work

Terminal facilities. There are 3 wharves of pile and timber construction; one is owned by the State, one by the town and one by the Plymouth Yacht Club. The State and town wharves are open to the public. In addition there are two boatyards with marine railway facilities along the waterfront, equipped for boat building and repairs. Local interests maintain the existing public landings open to all on equal terms and provide all necessary mooring facilities in the anchorage. Facilities are considered adequate for existing commerce.

Operations during fiscal year. Maintenance: Hired labor costs incurred in connection with proposed repair to the Long Beach Dike were $15,809 for the preparation of plans and specifications and $25,466 for project coordination and management. Construction award was deferred pending receipt of state and local permits.

14. PORTLAND HARBOR, ME

Location. Portland Harbor is located on the southwestern coast of Maine, about 100 miles northeast of Boston, Massachusetts. (See National Ocean Service Coast Survey Chart 13292.)

Previous projects. For details see the Annual Reports for 1915 and 1936.

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1978. The project was completed in 1966, except for ledge removal that was completed in 1968.

Local cooperation. Fully complied with for completed work.

Terminal facilities. There are 37 waterfront facilities, seven of these facilities are publicly owned; the U.S. Government owns four, the State of Maine owns two, and the City of South Portland owns one. Mechanical-handling facilities are available at 24 wharves and railroad connections have been made to 27 wharves. The facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: An adjustment of $-3,006 was made to previously reported expenditures for a maintenance contract completed in FY 1999. Hired labor costs of $432 were incurred for evaluation of a contract claim.

15. PORTSMOUTH HARBOR AND PISCATAQUA RIVER, ME AND NH

Location. The Piscataqua River forms a portion of the state boundary between Maine and New Hampshire. Portsmouth Harbor is located at the mouth of the Piscataqua River, about 45 miles northeast of Boston, Massachusetts and 37 miles southwest of Portland, Maine. (See National Ocean Service Coast Survey Chart 13278.)

Previous projects. For details see the Annual Report for 1892.

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1993. Widening of the 35-foot channel between the two vertical lift bridges and adjacent to Goat Island was completed in April 1992.

Local cooperation. Fully complied with for completed work.

Terminal facilities. Waterfront terminals are chiefly on the south bank of the Piscataqua River in Portsmouth and Newington, New Hampshire. The U.S. Navy Yard is on the opposite bank in Kittery, Maine. Eighteen piers, wharves and landings provide terminals for handling the port's waterborne commerce. The Navy Yard is not used for commercial activities. On the Maine side of the river there are two docks and a town landing. On the New Hampshire side there are 13 terminals, 6 of which include a public landing, 2 docks, 3 facilities used for vessel mooring and

landings are at Portsmouth. In addition there are a number of private recreational boat docks. Terminal facilities are considered adequate for existing commerce.

Operations during fiscal year. Maintenance: A contract for maintenance dredging of the Simplex Reach was awarded on October 11, 2000. Dredging to the 35-foot project depth plus 2 feet of advanced maintenance was performed by the hopper dredge LINDHOLM from November 23 to 26, 2000. A total of 7,900 cubic yards of coarse-grained material was removed and placed in a deep area of the river about 3,000 feet downstream of the shoal. Final contract amount was $550,446. Hired labor costs included $14,342 for hydrographic surveys, $4,587 for contract supervision and inspection, $1,133 for contract administration and $19,997 for project coordination and management.

16. PROVIDENCE RIVER AND HARBOR, RI

Location. The Providence River originates in Providence, Rhode Island at the junction of two small streams, the Woonasquatucket and Moshassuck Rivers. It then flows southerly about a mile to the head of Providence Harbor at Fox Point where it is joined by the Seekonk River and continues southerly another 8 miles to Narragansett Bay. (See National Ocean Service Coast Survey Charts 13224 and 13225.)

Previous projects. For details see the Annual Reports for 1915, 1936, and 1938.

Existing project. Provides for a channel 16.8 miles long and 40 feet deep, generally 600 feet wide from deep water in Narragansett Bay just south of Prudence Island Light to the turn below Field Point at Providence, thence up to 1,700 feet wide to Fox Point. The existing 40-foot channel was completed in January 1976. Dredging of a 30-foot channel, 150 feet wide from the upper end of the existing project to India Point at the mouth of the Seekonk River was deauthorized in November 1986. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Local interests have yet to provide berthing areas commensurate to channel depths.

Terminal facilities. There are 27 water terminal facilities serving the port of Providence, Rhode Island. Three-fourths of all facilities have railway connections. The City of Providence owns four of these facilities and the State of Rhode Island owns two others. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Cost incurred for various contracts associated with the Final Environmental Impact Statement (FEIS) addressing proposed maintenance dredging of the 40-foot Federal channel were $173,265 for various environmental studies and report writing; $25,424 for subsurface explorations; $332,937 for sediment sampling and biological testing of proposed Confined Aquatic Disposal (CAD) sites; $306,393 for Phase I and II archaeology surveys; $85,000 for erosion modeling; $22,333 for remote underwater sediment profile photography of the disposal site; $87,000 for WES disposal site modeling; $5,000 for economic assessment of commercial/recreational fishing impacts; $56,587 for retest of mysid bioassay for in-channel CAD; and $31,000 for dredging windows document support. Hired labor costs included $421,300 for preparation of Final Environmental Impact Statement, $21,300 for the administration of contract sampling and testing, $64,000 for project coordination and management, $5,500 for coordination of public meetings, and $7,900 for contract administration.

17. SAKONNET HARBOR, RI

Location. Sakonnet Harbor, originally known as Church Cove, is located in the town of Little Compton, Rhode Island, about 30 miles southeast of Providence and 5 miles east of Newport. The harbor is located just east of the entrance to the Sakonnet River and directly adjoins the Atlantic Ocean at Block Island Sound. (See National Ocean Service Coast Survey Chart 13221.)

Existing project. Provides for a breakwater 800 feet long, dredging the harbor to a depth of 8 feet, and removal of rock nearest the wharf also to 8 feet. The original 400-foot breakwater was completed in 1900 and extended an additional 400 feet in 1957. (See Table 1-B at end of chapter for Acts authorizing the existing project).

Local cooperation. Fully complied with for completed work.

Terminal facilities. There are four privately owned wharves in the harbor. The Sakonnet Yacht Club is located on the east side of the harbor and is readily accessible to small craft. The three other wharves are located on the west side of the harbor and are open to the public free of charge. The State highway located long two sides of the harbor provide access to the wharves. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Inspection of the breakwater determined that repairs were not necessary at this time.

18. SALEM HARBOR, MA

Location. Salem Harbor is located on the north shore of Massachusetts Bay, about 12 miles north of the entrance to

Boston Harbor, Massachusetts. (See National Ocean Service Coast Survey Charts 240 and 1207.)

Previous projects. For details see the Annual Report of 1915.

Existing project. Provides for a channel 32 feet deep and generally 300 feet wide, widened to 400 feet at bends and at the inner end, extending about 1.5 miles from deep water in the outer harbor to a point about 1,500 feet from Salem Terminal wharf, where it joins locally dredged approach channel of same depth leading to wharf. Project also provides for a channel 10 feet deep in South River, 300 feet wide and gradually narrowing to 50 feet wide at the upstream end of Pickering Wharf, and for a branch channel on the east side of Derby Wharf, 8 feet deep, 100 feet wide, and about 700 feet long, which widens into a basin of the same depth, 500 feet long and 200 feet wide. Existing project was completed in November 1967. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. The extensively developed waterfront of Salem Harbor and the South River is about 1 mile in extent and includes 9 wharves owned by private interests. The Salem Terminal is the largest of these and serves the New England Power Company's generating station. It is also the principal terminal for receipt and distribution of coal and petroleum products in Salem and tributary area. The Navy uses one of the two wharves owned by the National Park Service as a training center. Nine other wharves in the harbor are outside of the extensively developed area.

Operations during fiscal year. Maintenance: Work consisted of investigations in preparation for maintenance dredging of the Federal channels and support to the Massachusetts Office of Coastal Zone Management in their preparation of a State Dredged Material Management Plan (DMMP) for Salem Harbor. Hired labor costs of $8,928 were incurred for project coordination and management. Work next FY will include final NEPA documentation and preparation of project plans and specifications.

19. SAUGUS RIVER, MA

Location. The mouth of the Saugus River is located along the western shore of Lynn Harbor in Broad Sound, about 5 miles northeast of Boston Harbor, Massachusetts. The river forms the boundary between the communities of Saugus and Lynn, Massachusetts.

Existing project. Provides for an entrance channel 80 to 150 feet wide and 18,400 feet long from deep water in Broad Sound, through the Western Channel of Lynn Harbor and upstream in the Saugus River to the harbor area and commercial facilities. The first 17,700 feet of the channel is 8 feet deep and extends to the uppermost commercial shore facilities. The final 700 feet of the channel is 6 feet deep and provides access to the uppermost anchorage. The project also provides for 2 anchorage areas, both 6 feet deep and totaling 4.3 acres, to accommodate the commercial fleet. (See Table 1-B for Act authorizing the project.)

Local cooperation. A Project Cooperation Agreement was signed on May 22, 2000 between the Corps and the Commonwealth of Massachusetts Department of Environmental Management. The project sponsor must provide all lands, easements, rights-of-way, and perform all relocations determined by the Government to be necessary for project construction; provide 10 percent of total General Navigation Feature (GNF) costs during construction; reimburse an additional 10 percent of total GNF costs within a period not to exceed 30 years following completion of construction (partially offset by a credit allowed for the value of lands, easements, rights-of-way, and relocations); and deepen and maintain all berthing areas and local access channels commensurate with project features.

Terminal facilities. General Electric and a few marinas and yacht clubs line the eastern shore of the Saugus River. The western bank includes Refuse Energy Systems Company (RESCO), the Atlantic Lobstermen's Cooperative, a public landing and a few yacht clubs, marinas and boat yards. Most local fishermen moor their vessels opposite the town landing above the Fox Hill (Route 107) Bridge. Some fishermen, whose residences line the shore on both sides upstream of the town landing, berth their vessels at their own docks and floats during loading and off-loading operations conducted at higher tidal stages. There are about 20 such facilities along the river's edge. Facilities are considered adequate for present harbor activities.

Operations during fiscal year. New Work: A continuing contract for improvement dredging of the Saugus River was awarded on August 1, 2000. Dredged material was determined to be unsuitable for open water disposal. Contract work included construction of a Confined Disposal Facility (CDF) at the RESCO landfill in Saugus. Construction of the upland CDF was initiated on September 15, 2000 and completed on January 5, 2001. Dredging commenced on January 12, 2001 and was completed on March 7, 2001. About 63,000 cubic yards of material was removed from the river channel and inner harbor by hydraulic pipeline dredge and pumped to the CDF. The contract included dredging of about 2,100 cubic yards of material from three municipal areas. This work was completed at 100 percent non-Federal cost under a

memorandum of agreement with the Town of Saugus. Work to facilitate de-watering of the upland disposal site was ongoing at FY end.

20. SCITUATE HARBOR, MA

Location. Scituate Harbor is located on the Atlantic coast about 14 miles southeast of the entrance to Boston Harbor and 33 miles northwest of the Massachusetts entrance to the Cape Cod Canal. (See National Ocean Service Coast Survey Charts 232 and 1207.)

Previous projects. For details see the Annual Reports of 1931 and 1938.

Existing project. For description of the existing project and authorizing legislation see the Annual Report for 1995.

Local cooperation. Fully complied with for completed work.

Terminal facilities. There are three wharves, one formerly used for the receipt of coal and lumber, one owned by the town and used as a public landing, and one used as a yacht pier. None of these wharves have any railroad connections or elaborate freight-handling machinery, but each has good highway facilities. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Work during the FY included preparation for repairs to the south breakwater as well as maintenance dredging of channels and anchorages. Hired labor costs included $7,000 for surveys of the breakwater, $29,327 for preparation of plans and specifications for breakwater repairs, and $10,862 for project coordination and management.

21. SEEKONK RIVER, PROVIDENCE, RI

Location. The India Point Railroad Bridge is located at the mouth of the Seekonk River in Providence, Rhode Island.

Existing project. Provides for the removal of the abandoned India Point Railroad Bridge at a currently estimated cost of $1,400,000. (See Table 1-B for Acts authorizing the project.)

Local cooperation. A Project Cooperation Agreement was signed on December 21, 2000 between the Corps and the City of Providence, Rhode Island. The City must transfer title of the bridge to the United States and provide 50 percent of construction costs. Revenue derived from the sale of scrap from the bridge shall be credited toward the non-Federal share of project costs. A Memorandum of Agreement was signed on September 26, 2000 between the Corps and the Rhode Island State Historic Preservation Office, stipulating the Corps will market the India Point Railroad Bridge for reuse.

Operations during fiscal year. New work: A contract to remove the India Point Railroad Bridge and center pier was awarded on May 10, 2001. Work began in late June 2001 and was about 35 percent complete at FY end with contractor earnings of $194,978.

22. SESUIT HARBOR, MA

Location. Sesuit Harbor is located on the north shore of Dennis in Barnstable County, about 85 miles southeast of Boston, Massachusetts. The town of Dennis is bordered on the north by Cape Cod Bay, Brewster and Harwich on the east, Nantucket Sound on the south, and Yarmouth on the west. (See National Ocean Service Coast Survey Chart 13250.)

Existing project. Provides for a channel 6 feet deep and 100 feet wide from deep water in Cape Cod Bay to a point opposite the Dennis Yacht Club, thence reducing in width to 80 feet at the entrance to the inner harbor basin, for a total channel length of 2,400 feet. Project was completed in August 1982. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Operations during fiscal year. Maintenance: Maintenance dredging of the entrance channel was performed by the Government-owned dredge CURRITUCK from July 9 to 23, 2001 at a plant rental cost of $180,000. About 24,400 cubic yards of sand were removed and placed east of the entrance channel in a nearshore area off Cold Storage Beach. Hired labor costs of $19,680 were incurred for performing and plotting pre- and after-dredge surveys. An environmental window of June 1 to January 30 was established to protect winter flounder.

23. UNION RIVER, ME

Location. Union River connects a series of lakes and ponds in east central Maine, flows about 50 miles in a southerly direction, and discharges into Union River Bay just west of Mount Desert Island. (See National Ocean Service Coast Survey Chart 13312.)

Existing project. Provides for a channel 6 feet deep and 100 to 125 feet wide, with widening of up to 150 feet along bends in the channel and at the mouth of Union River, extending 3.75 miles from deep water in Union River Bay to a 5.4 acre turning basin of the same depth at the wharves at

Ellsworth, Maine. Project was completed in 1902. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. None required.

Terminal facilities. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: A continuing contract for maintenance dredging was awarded on November 1, 2001. Work began in February 2001 and continued through April 15, 2001 when work was suspended. Environmental restrictions limit work to the period of November 1 through April 15 to protect the Atlantic salmon and other anadromous fish. The contractor used a mechanical bucket dredge to remove about 44,700 cubic yards of material, including 16,200 cubic yards of material and 15 tons of boulders from the upper basin and 28,500 cubic yards from the outer channel, which completed this portion of the project. Material in the upper basin consisted of mixed sand, gravel, boulders and mill waste. Material in the outer channel consisted of sawdust and fine-grained materials. All material was disposed in open water in Union River Bay west of Tuppers Ledge. About 29,200 cubic yards of material remains to be removed form the upper channel reaches and harbor basin during next FY. An extensive program of subsurface explorations and acoustic surveys was carried out under contracts totaling $90,000 to determine the nature and extent of unanticipated hard materials encountered while dredging the upper channel and basin. Hired labor costs incurred in association with maintenance dredging of the Federal project were $11,900 for the preparation of plans and specifications, $46,000 for performing and plotting pre-dredge surveys, $10,300 for project coordination and management, $3,200 for supervision and inspection, and $1,800 for contract administration.

24. WELLS HARBOR, ME

Location. Wells Harbor is located in the town of Wells at the mouth of the Webhannet River, about 20 miles northeast of Portsmouth Harbor, New Hampshire and about 34 miles southwest of Portland Harbor, Maine. (See National Ocean Service Coast Survey Chart 13286.)

Previous project. For a description of the previous project, see the Annual Report for 1991. This project was completed in April 1967.

Existing project. The Water Resources Development Act (WRDA) of 1999 made substantial changes to project features. The modifications conformed to an agreement between the project's Sponsors (Towns of Wells and State of Maine) and the intervenes in the State review process on the proposed maintenance of the project (Maine Audubon society, U.S. Fish and Wildlife Service, State resource agencies, local businesses and shorefront property owners). The project's proximity to the Rachael Carson National Wildlife Refuge and Wells National Estuarine Research Reserve (WNERR) had generated opposition to continued project maintenance from State and Federal resource agencies and environmental interest. Local citizens and business groups had intervened in favor of the project. WRDA 1999 modified the project by shifting the 6-foot inner harbor access channel to the west side of the harbor where the most important local landing is located; re-designated the east side channel and easterly portions of the settling basin as a 6-foot anchorage; deauthorized narrow areas along the east and west sides of the inner harbor project features to permit construction of a municipal marina; and relocated the settling basin to the outer harbor between the shore arms of the jetties. WRDA 1999 also contains a provision authorizing the US Fish & Wildlife Service to accept enforcement rights over a conservation easement placed on a large inter-tidal sand bar occupying the central portion of the inner harbor. Under the terms of the easement, a 4.7-acre portion of the new 6-foot anchorage and the remaining areas of the original inner harbor settling basin could not be dredged. The purposed of this easement is to prevent the dredging of areas considered critical habitat by the Maine Audubon Society. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. There is one wharf of pile and timber construction on the north side of the anchorage. The facility is owned and operated by the town of Wells and is considered adequate.

Operations during fiscal year. Maintenance: A continuing contract for maintenance dredging of the modified Federal project was awarded on July 31, 2000. The contract also included work for the town of Wells to dredge municipal berthing areas. Dredging commenced in late September 2000 and was completed in December 2000. A total of 146,700 cubic yards of material was removed by hydraulic pipeline dredge and pumped about 1.5 miles south to the casino area of Wells Beach, and about 1 mile north to Drakes Island Beach for use as nourishment. This includes about 8,000 cubic yards removed from the Federal project and 4,000 cubic yards from the municipal project last FY. The contract also included removal of pilings and rubble fill from a portion of the ruined timber crib constructed in 1852, removal of a timber-pile dolphin under a reimbursable agreement with the U. S. Coast Guard, and removal of derelict moorings and debris. Contract costs during the FY were $1,522,454 for Federal work, $5,400 for the U. S. Coast Guard, and $ 366,377 for municipal work. Hired labor costs included $55,336 for contract supervision and inspection, $58,134 for performing and plotting after-dredge

surveys, $9,016 for project coordination and management, and $659 for contract administration. Work anticipated for next FY includes comprehensive hydrographic surveys of the harbor and adjacent areas of the Rachael Carson National Wildlife Refuge as part of the long-term monitoring of dredging impacts on the estuary.

25. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Section 107. Public Law 86-645, as amended (preauthorization).

(See Table 1-I)

Mitigation of damages caused by Federal navigation projects pursuant to Section 111. Public Law 90-483 as amended (preauthorization).

(See Table 1-J)

Beach Erosion Control

26. POINT BEACH, MILFORD, CT

Location. The city of Milford is located in south-central Connecticut along the northern shore of Long Island Sound. Point Beach is a residential subdivision located in Milford about 75 miles northeast of New York City and 10 miles southwest of New Haven, Connecticut.

Existing project. The proposed project involves raising the first floor of 58 shorefront and backshore residential structures above the estimated 100-year flood elevation. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed on January 14, 1997 between the Corps and the Connecticut Department of Environmental Protection. This agreement was amended on September 18, 2000 to reflect the increased Federal cost limitation. The project sponsor must pay 35 percent of all costs allocated to storm damage reduction, assume all costs above the Federal cost limitation of $3,000,000 and assume all costs for the maintenance and repair of the project after completion.

Operations during fiscal year. New work: A contract to elevate residential structures was awarded on March 29, 2001. Work began in May 2001 and was about 15 percent complete at FY end with contractor earnings of $394,536.

27. WOODMONT BEACH, MILFORD, CT

Location. Woodmont Beach is located on the northern shore of Long Island Sound in the borough of Woodmont. The City of Milford is located about five miles southwest of New Haven, Connecticut and some 82 miles northeasterly of New York City.

Existing Project. The original project provided for Federal participation in the amount of one-third of the first cost of protection and improvement of those portions of the shore which are publicly owned, by widening to a width of 100 feet by direct placement of sand, 500 feet of shore in the first pocket beach west of Mervin Point; widening to a width of 100 - 150 feet, 3,500 feet of shore from Chapel Street northerly to a point about 400 feet north of Anderson Avenue; and construction of five impermeable groins 300 to 400 feet long. This work was completed by the State of Connecticut in 1959. (For details see the Annual Report for 1961.)

Work authorized in March 1992 provided for the direct placement of sandfill along approximately 1,500 feet of beach between Clinton and Bonsilene Streets to form a berm 50 feet wide, reconstruction of the Usher Road/Dunbar Street and Bonsilene Street groins, and mitigation to replace rocky habitat for blue mussels lost as a result of sand placement. This work was completed in 1994. New work includes periodic beach nourishment over the 50-year economic life of the project. The first periodic beach nourishment was completed in June 2000. (See Table 1-B for Acts authorizing the project.

Local cooperation. Fully complied with for completed work. In accordance with the Local Cooperation Agreement signed May 18, 1992 between the Corps and the City of Milford, the project sponsor must pay 35 percent of the total cost of periodic beach nourishment.

Operations during fiscal year. New Work: Periodic beach nourishment costs were apportioned between the Federal and non-Federal accounts.

28. INSPECTION OF COMPLETED BEACH EROSION CONTROL PROJECTS

No beach inspections were conducted in FY 2001.

29. BEACH EROSION CONTROL WORK UNDER SPECIAL AUTHORIZATION

Beach erosion control activities pursuant to Section 103. Public Law 87-874, as amended (preauthorization).

(See Table 1-K)

Flood Control

30. ALLENDALE DAM, NORTH PROVIDENCE, RI

Location. Allendale Dam is located along the Woonasquatucket River, which forms the boundary line between the towns of North Providence and Johnston, Rhode Island.

Existing project. Provides for the reconstruction of Allendale Dam. (See Table 1-B for Acts authorizing the project.)

Local cooperation. Formal assurances have not been requested yet. The project sponsor must obtain title to the Allendale Dam; provide all lands, easements, rights-of-way, and relocations necessary for project construction; pay 25 percent of project costs; and assume all costs for the operation and maintenance of the project after completion.

Operations during fiscal year. New work: Design for dam reconstruction was completed during FY 1997. Reconstruction efforts were postponed in FY 1998 following discovery of dioxin contamination in the sediments behind the dam. Reconstruction of the dam was completed in February 2002 under the EPA Superfund Program.

31. AROOSTOOK RIVER, FORT FAIRFIELD, ME

Location. The Town of Fort Fairfield is located in northern Maine along the border with New Brunswick, Canada, about 140 miles northeast of Bangor, Maine. The central business district is located along the south side of the Aroostook River in downtown Fort Fairfield.

Existing project. Provides for the construction of approximately 2,800 linear feet of earthen dike and concrete floodwall along the south side of the Aroostook River to protect the central business district of Fort Fairfield from future ice jam flooding. The project also includes construction of a pumping station to remove interior drainage, along with environmental and cultural resource mitigation measures involving planting shrubs over a 5,000 square foot area and relocation of an historic railroad station. The project was completed in January 2001. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed on May 25, 1999 between the Corps and the town of Fort Fairfield, Maine. The project sponsor shall provide all lands, easements, rights-of-way, and perform all relocations and alterations of buildings, utilities, highways, railroads, and bridges determined by the Government to be necessary for construction of the project; pay a cash contribution in the amount necessary to bring the non-Federal share of project costs to 35 percent (a minimum cash contribution of 5 percent is required); assume all costs in excess of the Federal statutory limitation of $5,000,000; and bear all operation, maintenance and repair costs of the project after completion.

Operations during fiscal year. A contract to construct the project was awarded July 8, 1999. Work began in August 1999 and was completed in January 2001. Potential ice problems were discovered at the pumping station during winter testing. Work to modify the intake structure and discharge line to preclude ice from interfering with pump operations was initiated in June 2001 and continued in progress at FY end.

32. BLACKSTONE RIVER BASIN, MA AND RI

Works covered by this plan include a dam and reservoir on West River and local protection works at three cities on Blackstone River. Flood Control Act of 1944 authorized plan for a reservoir on West River and local protection works at Worcester, Massachusetts, and Woonsocket and Pawtucket, Rhode Island, substantially in accordance with House Document 624, 78th Congress, 2nd session. Flood Control Act of 1960 authorized a local flood protection project at lower Woonsocket, Rhode Island, substantially in accordance with Senate Document 87, 85th Congress, 2nd Session. Local protection nonstructural project authorized in 1982 for Belmont Park section of Warwick, Rhode Island, along the Pawtuxet River. Streambank protection projects on the Blackstone River in Millbury, Massachusetts, and on the Clear River in Burrillville, Rhode Island, were authorized in 1985. (See Table 1-N for projects comprising the authorized plan.)

32A. WEST HILL DAM, MA

Location. Dam is on West River, Massachusetts, three miles above its confluence with Blackstone River and 2.5 miles northeast of Uxbridge, MA. (See Geological Survey maps Blackstone, MA and RI, Milford, MA, and Grafton, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant structures was initiated in June 1959 and completed in June 1961. Construction of recreational facilities was completed in June 1967.

Local cooperation. Section 3, Flood Control Act of 1944 applies.

Operations during fiscal year. Major rehabilitation: A contract to rehabilitate West Hill Dam was awarded June 8, 2001. Work began in July 2001 and was about 15 percent complete at FY end with contractor earnings of $2,274,619.

Maintenance: Ordinary operation and maintenance activities were conducted.

33. CHARLES RIVER (NATURAL VALLEY STORAGE AREAS), MA

Location. The Charles River extends inland from Boston Harbor southwesterly toward the Massachusetts-Rhode Island border and is some 80 miles long with a watershed covering 307 square miles.

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1995. Land acquisition was completed in 1990.

Local cooperation. Local interests are required to prevent modifications or alteration of existing roadways, utilities, bridges, culverts, and any other improvements that might affect the drainage characteristics of the natural storage areas; adopt and enforce regulations to restrict development of flood plain lands; and operate and maintain the existing dams along the Charles River. Local assurances were provided by the Commonwealth of Massachusetts.

Operations during fiscal year. Maintenance: Hired labor costs for ordinary maintenance activities, project surveillance and inspection, and land use administration were $201,068.

34. CONNECTICUT RIVER BASIN, VT, NH, MA AND CT

Location. Works covered by this project are a series of dams and reservoirs located on tributaries of the Connecticut River in Vermont, New Hampshire and Massachusetts, within a radius of 230 miles from Hartford, Connecticut, and local protection works at several cities in the basin.

Existing project. Flood Control Act of 1936, as amended by Act of May 25, 1937, authorized construction of ten reservoirs on tributaries of Connecticut River in accordance with plans in House Document 412, 74th Congress, 2nd session, as the same may be revised upon further investigation of 1936 flood. Flood Control Act of 1938 approved a general comprehensive plan for control of floods and other purposes in Connecticut River Valley, as set forth in House Document 455, 75th Congress, 2nd session, and authorized $11,524,000 for construction of local flood protection projects in the plan. Act of October 15, 1940, modified Act of June 18, 1938, to provide additional protection at East Hartford, CT, as set forth in House Document 653, 76th Congress, 3rd session. Act of August 18, 1941, modified comprehensive plan approved in 1938 to include improvements recommended in House Document 653, 76th Congress, 3rd session, and House Document 724, 76th Congress, 3rd session, with such further modifications as may be found justifiable in discretion of Secretary of the Army and Chief of Engineers. Latter Act also authorized to be appropriated additional $6 million for local protection works and $10 million for reservoirs. Act of October 26, 1942, further modified plan by including construction of Gully Brook conduit at Hartford, CT. Flood Control Act of 1944 authorized expenditure of $30 million in addition to previous authorization for comprehensive plan approved in 1938 and modified plan by directing specific consideration of an alternative plan of Vermont State Water Conservation Board instead of Williamsville Reservoir in West River Basin, VT; directing consultation with affected States during course of investigations and transmission of proposal and plans to each affected State for written views and recommendations for reservoir projects heretofore authorized for construction at Cambridgeport, Ludlow, South Tunbridge, and Gaysville, and resubmission of projects or modifications for construction of Sugar Hill site. Flood Control Act of 1950 modified project for flood control at Hartford, CT, authorized by Flood Control Act of 1938, as amended to include Folly Brook dike and conduit. Flood Control Act of 1954 modified plan for flood control in Connecticut River Basin to provide for construction of a reservoir on Otter Brook at South Keene, NH, in lieu of any reservoir or reservoirs heretofore authorized. This Act further modified plan for West River Basin of Connecticut River in Vermont to consist of three reservoirs at Ball Mountain, The Island, and Townshend sites, in lieu of plan of eight reservoirs authorized in Flood Control Act of 1944. Flood Control Act of 1958 modified plan for flood control in Connecticut River Basin to include construction of Littleville Reservoir on Middle Branch of Westfield River, MA, and Mad River Reservoir on Mad River, above Winsted, CT. Flood Control Act of 1960 included authorization in Connecticut River Basin of plan for flood protection on Chicopee River, MA, substantially in accordance with House Document 434, 86th Congress; plan for flood protection on Westfield River, MA, substantially in accordance with Senate Document 109, 86th Congress; plan for flood control and related purposes on Farmington River, Connecticut, substantially in accordance with House Document 443, 86th Congress. Flood Control Act of 1968 included authorization in Connecticut River Basin of plan for construction of Beaver Brook Reservoir, on Beaver Brook in Keene, NH, substantially in accordance with Senate Document 60, 90th Congress; and plan for protection on Park River, Connecticut, substantially in accordance with Senate Document 43, 90th Congress. Flood Control Act of 1970 deauthorized the construction of a reservoir at Claremont, NH. The Water Resources Development Act of 1976 deauthorized the construction of Gaysville Lake, VT project. Flood control projects at Cambridgeport Lake,

Brockway Lake, Victory Lake, South Tunbridge Lake, Ludlow Lake and The Island Lake, Vermont; Honey Hill Lake, West Canaan Lake, and the Alternative to Sugar Hill Reservoir, NH, were deauthorized in August 1977 in accordance with Section 12 of the Water Resources Development Act of 1974. The authorization for Beaver Brook Lake, NH project expired in April 1978 due to lack of local cooperation. Local protection projects at Gardner, MA, West Springfield, MA, Hartford, VT, Wethersfield, CT, and Keene, NH authorized and constructed in accordance with Section 205 of 1948 Flood Control Act. Emergency streambank erosion control projects at Brownsville, VT; Conway, MA; Huntington, MA; Charlestown, NH; North Stratford, NH; Colchester, CT; Middletown, CT; Milford, CT; Simsbury, CT; and two projects in Leominster, MA authorized in accordance with Section 14 of the 1946 Flood Control Act were completed. (See Table 1-M at end of chapter for reservoirs and local protection works for Connecticut River Basin.) The Water Resources Development Act of 1986 modified the comprehensive plan for the control of flood-waters in the Connecticut River Basin, Vermont, New Hampshire, Massachusetts, and Connecticut, authorized by Section 5 of the Act of June 22, 1936 (49 Stat. 1572) by authorizing the design, construction, operation, and maintenance of facilities at Townshend Dam, West River, VT to enable upstream migrant adult Atlantic salmon to bypass that dam and Ball Mountain Dam, VT, and to provide at both Townshend and Ball Mountain Dams facilities as necessary for the downstream passage of juvenile Atlantic salmon. This work was completed in February 1993.

34A. BALL MOUNTAIN LAKE, VT

Location. The Dam is on West River, 29 miles above its junction with Connecticut River at Brattleboro, Vermont. It is two miles north of Jamaica, VT. (See Geological Survey map for Londonderry, VT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1994. Construction of the dam and appurtenant works was initiated in May 1957 and completed in November 1961. Cost of work was $10,448,000 for construction and $350,000 for lands and damages, a total of $10,798,000. Construction of recreation facilities was initiated in June 1975 and completed in June 1977. Fish passage facility work began in June 1992 and was completed in February 1993. The project is a unit of comprehensive plan for flood control and other purposes in Connecticut River Basin.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract to pave the access road was awarded May 3, 2001. Work began in August 2001 and was about 65 percent complete at FY end with contractor earnings of $212,385.

34B. BARRE FALLS DAM, MA

Location. The Dam is on Ware River in the Town of Barre, Massachusetts, 31.9 miles above confluence of Ware and Swift Rivers. It is 13 miles northwest of Worcester, MA. (See Geological Survey maps for Barre, MA and Wachusett Mountain, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in May 1956 and completed in May 1958.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

34C. BIRCH HILL DAM, MA

Location. Dam is on Millers River, 27.3 miles above its junction with the Connecticut River. It is 1.3 miles east of South Royalston, Massachusetts and 7.5 miles northwest of Gardner, MA. (See Geological Survey maps for Royalston and Winchendon, MA-NH and Templeton, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in June 1940 and completed in February 1942.

Local cooperation. Section 2, Flood Control Act of 1938 applies. Local interests have contributed $32,000 as their required 50 percent cost sharing of recreational development in accordance with 1965 Federal Water Project Recreation Act.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities. A contract to replace gate operators and stems was awarded June 9, 1999. Work began in June 2000 and was completed in September 2000. Final contract amount was $238,316.

34D. COLEBROOK RIVER LAKE, CT

Location. Damsite is in the Town of Colebrook, Litchfield County, Connecticut, on West Branch Farmington

River about 3.9 miles upstream from its confluence with Still River at Riverton, CT, and about 1.5 miles upstream from Goodwin (Hogback) Dam. (See Geological Survey map for Winsted, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in May 1965 and completed in June 1969. Construction of recreation facilities was initiated in August 1969 and completed in June 1970.

Local cooperation. A water supply contract was signed by the Hartford Connecticut Metropolitan Water District. Repayment is being made in accordance with provisions of the 1958 Water Supply Act.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

34E. CONANT BROOK DAM, MA

Location. Site is in south central part of Massachusetts in Town of Monson. Damsite, across Conant Brook, is about two miles southeast of the community of Monson, MA. (See Geological Survey map for Monson, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam, highway relocations, and appurtenant works was initiated in June 1964 and completed in December 1966.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

34F. KNIGHTVILLE DAM, MA

Location. Dam is on Westfield River, 27.5 miles above its confluence with Connecticut River. It is four miles north of the Town of Huntington, Massachusetts, and about 12 miles west of the City of Northampton, MA. (See Geological Survey map for Westhampton, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in August 1939 and completed in December 1941.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract for masonry repairs to the gatehouse was awarded July 25, 2000. Work began in August 2000 and was about 15 percent complete at FY end with contractor earnings of $27,480. A contract for concrete repairs was awarded on June 11, 2001. Work began in July 2001 and was about 50 percent complete at FY end with contractor earnings of $176,516.

34G. LITTLEVILLE LAKE, MA

Location. Dam is on Middle Branch of Westfield River, one mile above its confluence with main stem of Westfield River and 25.2 miles above confluence of Westfield River with Connecticut River, in the Town of Chester, Massachusetts. (See Geological Survey map for Chester, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated under a multicomponent contract in June 1962 and completed in September 1965.

Local cooperation. Section 2, Flood Control Act of June 28, 1938, and Title III, Water Supply Act of 1958 apply and were fully complied with.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

34H. NORTH HARTLAND LAKE, VT

Location. Dam is on Ottauquechee River, 1.5 miles above its junction with Connecticut River, and one-mile northwest of North Hartland, Vermont. Reservoir extends upstream 5.5 miles. (See Geological Survey map for Hanover NH-VT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam was initiated in June 1958 and completed in June 1961.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

34I. NORTH SPRINGFIELD LAKE, VT

Location. Dam is in the Town of Springfield, Vermont, on Black River, 8.7 miles above its junction with Connecticut River, and three miles northwest of Springfield,

VT. (See Geological Survey maps for Ludlow, VT, and Claremont, NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam was initiated in May 1958 and completed in November 1960.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract to pave the dam crest road was awarded June 4, 2001. Work began in September 2001 and was about 15 percent complete at FY end with contractor earnings of $55,602.

34J. OTTER BROOK LAKE, NH

Location. Dam is on Otter Brook, 2.4 miles upstream from its junction with The Branch, which flows 2.5 miles to Ashuelot River at Keene, New Hampshire. (See National Ocean Survey maps for Keene, NH-VT, and Monadnock, NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in September 1956 and completed in August 1958.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

34K. SURRY MOUNTAIN LAKE, NH

Location. Dam is on Ashuelot River, 34.6 miles above its junction with Connecticut River and five miles north of Keene, New Hampshire. (See Geological Survey maps for Keene and Bellows Falls, NH-VT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in August 1939 and completed in June 1942. Additional recreational facilities were completed in September 1969 and 1980.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract to replace service gates was awarded November 11, 1999. The contractor received notice to proceed in January 2000 and work was completed in September 2000. Final contract amount was $142,292.

34L. TOWNSHEND LAKE, VT

Location. Dam is on West River, 19.1 miles above its junction with Connecticut River at Brattleboro, Vermont, and about two miles west of Townshend, VT. The reservoir extends upstream about four miles. (See Geological Survey maps for Saxtons River, VT, and Londonderry, VT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1994. Reservoir is operated as a unit of a coordinated system for flood control in Connecticut River Basin. Construction of the dam and appurtenant works was initiated in November 1958 and completed in June 1961. Additional recreational facilities were completed in October 1969 and September 1971. Fish passage facility work began in June 1992 and was completed in February 1993.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract to replace guardrails was awarded September 18, 2000. Work began in November 2001 and was completed that same month. Final contract amount was $136,240. A contract to furnish and install an electronic fish trap system was awarded June 10, 1999. The contractor had to fabricate concrete panels and purchase electronic equipment. Actual construction work began in September 2000 and was completed in June 2001. Final contract amount was $424,995.

34M. TULLY LAKE, MA

Location. Dam is on East Branch of Tully River, 3.9 miles above its junction with Millers River. It is one mile north of Fryville, Massachusetts, and 3.5 miles north of Athol, MA. (See Geological Survey map for Royalston, MA-NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in March 1947 and completed in September 1949.

Local cooperation. Section 2, Flood Control Act of 1938 applies. Local interests must also bear 50 percent of future recreational development, in accordance with 1965 Federal Water Project Recreational Act.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

34N. UNION VILLAGE DAM, VT

Location. Dam is on Ompompanoosuc River, four miles above its junction with Connecticut River. It is one-fourth mile north of Union Village, Vermont, and 11 miles north of White River Junction, VT. (See Geological Survey maps for Strafford, VT and Mount Cube, NH-VT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam was initiated in March 1947 and completed in June 1950.

Local Cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

35. FAULKNER ISLAND, CT

Location. Faulkner Island is located in Long Island Sound about 3 miles south of Guilford, Connecticut. Faulkner Lighthouse is located about 35 feet from the cliff edge along the eastern side of the island.

Existing project. Provides for the construction of shoreline protection measures along the east side of the island adjacent to Faulkner Lighthouse. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Memorandum of Understanding (MOU) was signed September 14, 1998, between the Corps and the U.S. Fish and Wildlife Service. The island is owned and operated by the U.S. Fish and Wildlife Service as a National Wildlife Refuge. In accordance with the MOU, the U.S. Fish and Wildlife Service must agree to maintain the project after completion.

Operations during fiscal year. New work: A contract to construct Phase I of shoreline protection measures was awarded July 21, 2000. Work began in September 2000 and was completed in April 2001. Final contract amount was $2,353,983. Over the next few years, Fish and Wildlife will monitor the effectiveness of Phase I work and assess its impacts on tern nesting. Findings will help determine if additional shoreline protection is needed and the best way to accomplish this work. The Corps and Fish and Wildlife are jointly pursuing tern habitat enhancement measures to be completed next FY.

36. FOX POINT BARRIER, RI

Location. The Fox Point Barrier is located on the Providence River at Fox Point, in the City of Providence, Rhode Island.

Existing project. For description of completed project see the Annual Report for 1974. Construction of the barrier was completed in January 1966. The Water Resources Development Act of 1999 directs the Secretary to undertake necessary repairs to the barrier as identified in the Condition Survey and Technical Assessment dated April 1998, with Supplemental dated August 1998. Necessary repairs include overhauling pumps, replacing tainter gate roller chains, cleaning and painting tainter gates and repairing lower guide bearing diffuser cracks. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Fully complied with for completed work. Formal assurances to perform necessary repairs have not been requested. The City of Providence must provide 35 percent of total repair costs and assume all costs in excess of the Federal cost limit of $1,950,000.

Operations during fiscal year. Major rehabilitation: Prepared a Decision Document and began negotiation of a draft Project Cooperation Agreement with the City of Providence.

37. HOUSATONIC RIVER BASIN, CT AND MA

Seven flood control reservoirs on tributaries of the Naugatuck River, principal tributary of the Housatonic River, and three local protection projects have been specifically authorized as part of an overall plan for flood control in the Housatonic River Basin. The Naugatuck and Housatonic Rivers converge 12 miles above mouth of Housatonic River. A project for emergency snagging and clearing of the Blackberry River, a tributary of the Housatonic River, was authorized under authority contained in Section 208 of the 1954 Flood Control Act. Emergency streambank protection projects at: Alford, Green River, MA; Hoosic River, Williamstown, MA; Sheffield, MA; Salisbury, CT; and Squantz Pond, Fairfield, CT were authorized under authority provided by Section 14 of the 1946 Flood Control Act. Projects for local flood protection for: West Branch, Torrington, CT; East Branch, Torrington, CT; Mad River, Waterbury (Woodtick Area), CT; Pittsfield, MA; and Waterbury-Watertown, CT, were authorized under authority provided by Section 205 of the 1948 Flood Control Act. (See Table 1-P at end of chapter on dams, reservoirs, and local protection projects for Housatonic River Basin.)

37A. BLACK ROCK LAKE, CT

Location. Damsite is on Branch Brook, about two miles upstream from its confluence with Naugatuck River, in the Towns of Thomaston and Watertown, Connecticut. (See Geological Survey map for Thomaston, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Road relocation was completed in November 1967. Construction of the dam and appurtenant works was initiated in July 1967 and completed in July 1971.

Local cooperation. Section 2, Flood Control Act of 1938 applies. However, local interests must establish encroachment lines downstream of dam to permit efficient reservoir operation. State legislation requires establishment of such lines.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

37B. HANCOCK BROOK LAKE, CT

Location. Dam is on Hancock Brook, in the Town of Plymouth, Connecticut, about 3.4 miles above its confluence with Naugatuck River. (See Geological Survey map for Waterbury, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant structures was initiated in July 1963 and completed in August 1966.

Local cooperation. Section 2, Flood Control Act of 1938 applies. However, local interests must establish encroachment lines downstream of dam to permit efficient reservoir operation. State legislation requires establishment of such lines.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

37C. HOOSIC RIVER, SYNDICATE ROAD, WILLIAMSTOWN, MA

Location. The Town of Williamstown is located in the northwest corner of Massachusetts, approximately 20 miles north of Pittsfield, Massachusetts. The erosion site is located along the Hoosic River off Syndicate Road.

Existing project. Provides for the construction of approximately 300 linear feet of stone slope protection along the western bank of the Hoosic River adjacent to Syndicate Road. The project will protect two main sewer interceptor lines from erosion damage. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed August 30, 2001 between the Corps and the Massachusetts Department of Environmental Management. The project sponsor must provide all lands, easements, rights-of-way, including suitable borrow and dredged material disposal areas, and perform all relocations determined by the Government to be necessary for project construction. The project sponsor must also pay a minimum cash contribution of 5 percent of total project costs during construction; pay an additional cash contribution during construction so that the total contribution including lands equals 35 percent of total project costs; assume all costs in excess of the Federal statutory cost limitation of $1,000,000; and bear all costs for maintenance and repair of the project after completion.

Operations during fiscal year. New work: Prepared project plans and specifications.

37D. HOP BROOK LAKE, CT

Location. Damsite is on Hop Brook, in city of Waterbury and towns of Middlebury and Naugatuck, Connecticut, about 1.4 miles upstream of confluence of Naugatuck River and Hop Brook. (See Geological Survey map for Waterbury, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant structures was initiated in December 1965 and completed in December 1968. Construction of a public use facility was completed in November 1973. Construction of an additional restroom was completed in 1980.

Local cooperation. Section 2, Flood Control Act of 1938 applies. However, local interests must establish encroachment lines downstream of dam to permit efficient reservoir operation. State legislation requires establishment of such lines.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

37E. NORTHFIELD BROOK LAKE, CT

Location. Dam is on Northfield Brook, about 1.3 miles upstream from its confluence with Naugatuck River, in town of Thomaston, Connecticut. (See Geological Survey map for Thomaston, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of dam and appurtenances

was initiated in May 1963 and completed in October 1965. Construction of recreation facilities was initiated in November 1966 and completed in August 1967.

Local cooperation. Section 2, Flood Control Act of 1938 applies. However, local interests must establish encroachment lines downstream of dam to permit efficient reservoir operation. State legislation requires establishment of such lines.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

37F. THOMASTON DAM, CT

Location. On Naugatuck River, about 30.4 miles above its junction with Housatonic River, and about 1.6 miles north of Thomaston, Connecticut. Reservoir extends upstream about 6.4 miles. (See Geological Survey map for Thomaston, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in May 1958 and completed in November 1960.

Local cooperation. Section 3, Flood Control Act of 1944 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract to construct an access road and maintain reservoir roads was awarded June 2, 2000. Work began in July 2000 and was completed in September 2001. Final contract amount was $356,225.

38. MERRIMACK RIVER BASIN, NH AND MA

Works covered by comprehensive plan are on Merrimack River and its tributaries in New Hampshire and Massachusetts. Flood Control Act of 1936 authorized construction of a system of flood control reservoirs in Merrimack River Basin for reduction of flood heights in Merrimack Valley. Flood Control Act of 1938 approved general comprehensive plan for flood control and other purposes as approved by Chief of Engineers pursuant to preliminary examinations and surveys authorized by Act of June 22, 1936, and modified project to provide in addition to construction of a system of flood control reservoirs, related flood control works which may be found justified by the Chief of Engineers. All operations pertaining to flood control in Merrimack River Basin are now carried on under and reported under projects for individual units of comprehensive plan referred to above. No further expenditures are contemplated under general project for flood control in Merrimack River Basin. For final cost and financial summary, see The Annual Report for 1946.

A comprehensive plan for development of water resources of the North Nashua River Basin, a principal tributary of the Merrimack River, was authorized by 1966 Flood Control Act substantially in accordance with Senate Document 113, 89th Congress. Plan provides for construction of coordinated system of four reservoirs and three local protection projects for flood protection, water supply, recreation and allied purposes. Water Resources Development Act of 1986 deauthorized two of the reservoirs and one of the local protection projects.

The 1966 Flood Control Act also authorized construction of Saxonville local protection project substantially in accordance with Senate Document 61, 89th Congress. Emergency streambank protection projects at Amesbury, Massachusetts, two in Leominster, MA and two in Lancaster, MA were authorized under authority provided by Section 14 of the 1946 Flood Control Act. (See Table 1-Q at end of chapter for reservoirs and related flood control works for Merrimack River Basin.)

38A. BLACKWATER DAM, NH

Location. Dam is on Blackwater River, 8.2 miles above confluence with Contoocook River, and 118.8 miles above mouth of Merrimack River. It is in the town of Webster, New Hampshire, just above village of Swetts Mills, NH, 18 miles by highway northwest of Concord, NH. (See Geological Survey maps for Penacook and Mount Kearsarge, NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Project is complete except for construction of public facilities. Construction of the dam and appurtenant works was initiated in May 1940 and completed in November 1941.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

38B. EDWARD MACDOWELL LAKE, NH

Location. Dam is on Nubanusit Brook, a tributary of Contoocook River, one-half mile upstream from village of West Peterborough, New Hampshire, and 14 miles east of Keene, NH. (See Geological Survey map for Peterboro and Monadnock, NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual

Report for 1975. Construction of the dam and appurtenant works was initiated in March 1948 and completed in March 1950.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

38C. FRANKLIN FALLS DAM, NH

Location. Dam is on Pemigewasset River, main tributary of Merrimack River, and about 2.5 miles upstream of Franklin, New Hampshire. (See Geological Survey maps for Penacook and Holderness, NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in November 1939 and completed in October 1943.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract for concrete repairs to the inlet was awarded May 23, 2001. Work began in July 2001 and was about 35 percent complete at FY end with contractor earnings of $246,101.

38D. HOPKINTON-EVERETT LAKES, NH

Location. Hopkinton Dam is on Contoocook River, 17.3 miles above its junction with Merrimack River and about one-half mile upstream from village of West Hopkinton, New Hampshire. Everett Dam is on Piscataquog River, 16 miles above its junction with Merrimack River, and about 1.3 miles southeast of village of East Weare, NH. Two interconnecting canals were provided to enable the two reservoir areas to function as one. (See Geological Survey map for Hillsboro, NH, and Concord, NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of two dams and appurtenant works was initiated in November 1959 and completed in December 1962. Construction of recreation facilities was initiated in November 1974 and completed in September 1975.

Local cooperation. Section 2, Flood Control Act of 1938 applies. Local interests must also bear 50 percent of future recreational development in accordance with 1965 Federal Water Project Recreation Act.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

38E. NORTH NASHUA RIVER, LANCASTER, MA

Location. The Town of Lancaster is located in Worcester County in north central Massachusetts, approximately 40 miles west of Boston, Massachusetts and 18 miles north of Worcester, Massachusetts. The erosion site is located along the North Nashua River adjacent to State Highway Route 70.

Existing project. Provides for the construction of approximately 500 linear feet of stone slope protection along the bank of the North Nashua River adjacent to State Highway Route 70. Project was completed in August 2000. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Operations during fiscal year. New work: A contract for construction of emergency streambank protection measures was awarded on January 6, 2000. Work began in June 2000 and was completed in August 2000. Final contract amount was $227,374.

39. NEW BEDFORD, FAIRHAVEN AND ACUSHNET, MA

Location. Main harbor barrier is across New Bedford and Fairhaven Harbor in vicinity of Palmer Island. Supplemental dikes and walls are provided in Clark Cove area of New Bedford and Fairhaven. (See Geological survey maps for New Bedford North, New Bedford South, Marion, and Sconticut Neck, MA and National Ocean Service Coast Survey Charts 13230, 13070 and 13218.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the barrier and appurtenances was initiated in October 1962 and completed in January 1966. Construction of the pumping station was initiated in October 1962 and completed in June 1964.

Local cooperation. Fully complied with.

Operations during fiscal year. Maintenance: Ordinary operations and maintenance activities were conducted.

40. QUONSET POINT, DAVISVILLE, RI

Location. Quonset Point is located in east central Rhode Island along the west shore of Narragansett Bay in the village of Davisville and Town of North Kingstown, about 15 miles south of Providence, Rhode Island.

Existing project. Provides for the construction of two elevated water storage towers and relocation of 6,000 feet of sewer line. Construction of the water towers was completed in September 1998 and work on the sewer line was completed in July 1998. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed January 29, 1997 between the Corps and the Rhode Island Economic Development Corporation. The sponsor must provide all lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas, and shall perform or ensure performance of all relocations necessary for the construction, operation, and maintenance of the project. The sponsor must also provide 25 percent of construction costs and assume all costs in excess of the Federal limitations of $1,350,000 for construction of the two elevated water storage towers and $1,050,000 for sewer line relocation.

Operations during fiscal year. New work: Awaiting additional sponsor funds to financially close out project.

41. ROUGHANS POINT, REVERE, MA

Location. The city of Revere is a coastal community located in Suffolk County about five miles northeast of Boston, Massachusetts. Roughans Point is a low-lying, ocean front neighborhood of Revere. The area has 55 acres and about 300 structures, mostly residential homes.

Existing project. Project consists of 3,125 feet of stone revetment to dissipate incoming waves, prevent overtopping and stabilize existing facilities along the shoreline. The revetment extends from a point about 250 feet south of Eliot Circle southerly to a point 200 feet south of the intersection of Winthrop Parkway and Leverett Avenue. The project also provides for "backwater" protection by raising the ground elevation one-foot at the intersection of Bennington Street and State Road and installing a sluice gate on the 42-inch drain from the Roughans area to Sales Creek. Interior drainage improvements consist of a new intake structure at the existing pump station and a new gravity drain with a sluice gate. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed April 25, 1997 between the Corps and the Commonwealth of Massachusetts Department of Environmental Management. The project sponsor must provide without cost to the United States all lands, easements, rights-of-way, and relocations necessary for construction of the structural elements of the project, including ponding areas, borrow areas, and disposal areas for excavated material; hold and save the United States free from damages due to construction, operation, and maintenance of the project, not including damages due to the fault or negligence of the United States or its contractors; bear all costs of operation, maintenance and replacements; pay an amount in cash to bring the total non-Federal share to 35 percent of project costs allocated to storm damage reduction.

Operations during fiscal year. New work: A contract to construct the stone revetment project was awarded September 17, 1997. Work began in December 1997 and was completed in September 2000. Minor punch list items were accomplished this FY. Contractor earnings total $7,897,364 with final payment still pending at FY end. A contract to upgrade the existing pump station was awarded June 15, 2000. Work began in July 2000 and was about 70 percent complete at FY end with contractor earnings of $386,282.

42. SAINT JOHN RIVER BASIN, ME

Location. The project is located in Aroostook County in northern Maine, and lies within the Saint John River Basin.

Existing project. The project involves a research and demonstration program of cropland irrigation and soil conservation techniques for increasing potato yield and quality. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Local Cooperation Agreement (LCA) for a two-year research and demonstration program was signed on April 22, 1991 between the Corps and the Maine Aroostook Water and Soil Management Board. The project sponsor must obtain all interests in real estate as determined by the Government and the project sponsor to be necessary for project implementation. The Government will reimburse the project sponsor 65 percent of project costs as work is accomplished, up to the Federal cost limit of $300,000. The LCA was amended on June 6, 1994 to include a third year of research and demonstration at an estimated Federal cost of $252,000.

Operations during fiscal year. New work: Continued research at the University of Maine's farm in Presque Isle, Maine.

43. STAMFORD, CT

Location. The Stamford Hurricane Barrier is located in Fairfield County on the north shore of Long Island Sound,

about 30 miles east of New York City and 20 miles southwest of Bridgeport, Connecticut. (See Geological Survey map for Stamford, CT.)

Existing project. For a description of the completed improvements and authorizing legislation, see the Annual Report for 1974. Project was completed in 1969. Local interests still owe a substantial amount based on claims settlements, including interest payment under the Contract Disputes Act.

Local cooperation. Fully complied with except for $662,000 outstanding which is local share of final claims settlement including interest payment.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

44. THAMES RIVER BASIN, CT, RI, AND MA

Works covered by this plan are a series of dams and reservoirs on tributaries of Thames River in Massachusetts and Connecticut, within a radius of 45 miles from Norwich, CT, and a channel enlargement on Shetucket River where it discharges into Thames River at Norwich. Flood Control Act of August 18, 1941, approved plan for a system of reservoirs and channel improvements in Thames River Basin in accordance with House Document 885, 76th Congress, 3rd session, and authorized $6 million for initiation and partial accomplishment of project. Flood Control Act of December 22, 1944, authorized completion of approved plan. Flood Control Act of July 14, 1960, authorized project for West Thompson Reservoir, substantially as recommended in Senate Document 41, 86th Congress, 2nd session. Local flood protection project for West River, New Haven, CT was authorized under authority provided by Section 205 of the 1948 Flood Control Act. (See Table 1-P on reservoirs and local protection projects, Thames River Basin, for projects comprising approved plan.)

44A. BUFFUMVILLE LAKE, MA

Location. Dam is on Little River, 1.3 miles above its junction with French River, and eight miles northeast of Southbridge, MA. Reservoir extends upstream about 1.7 miles northerly and 1.9 miles southerly. (See Geological Survey maps for Webster, MA and CT, and Leicester, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in September 1956 and completed in June 1958.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

44B. EAST BRIMFIELD LAKE, MA

Location. Dam is on Quinebaug River, 64.5 miles above its confluence with Shetucket River, and one-mile southwest of the village of Fiskdale, Massachusetts. (See Geological Survey maps for Whales, MA and CT, Southbridge, MA and CT, East Brookfield, MA, and Warren, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in May 1958 and completed in June 1960.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

44C. HODGES VILLAGE DAM, MA

Location. Dam is on French River, 15 miles above its confluence with Quinebaug River, at Hodges Village in the Town of Oxford, Massachusetts, about five miles north of Webster, MA. (See Geological Survey maps for Webster, MA, and CT, Leicester, MA, Worcester South, MA, and Oxford, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works, initiated in March 1958, was completed in December 1959. Major rehabilitation of the dam was initiated in October 1997 and completed in July 2000.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Major rehabilitation: A contract to rehabilitate Hodges Village Dam was awarded August 5, 1997. Work began in October 1997 and was completed in July 2000. Final contract amount was $17,072,891. Maintenance: Ordinary operation and maintenance activities were conducted.

44D. MANSFIELD HOLLOW LAKE, CT

Location. Dam is at Mansfield Hollow, Connecticut, on Natchaug River, 5.3 miles above its confluence with

Willimantic River. It is four miles northeast of the City of Willimantic, CT. (See Geological Survey maps for Spring Hill and Willimantic, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of dam, initiated in 1949, was completed in May 1952.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

44E. WEST THOMPSON LAKE, CT

Location. Dam is on Quinebaug River, in the Town of Thompson, Connecticut. Site is in the village of West Thompson, two miles upstream from the City of Putnam, CT. (See Geological Survey map, for Putnam, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of dam, road relocation, and appurtenances was initiated in August 1963 and completed in October 1965. Initial phase of recreation facilities was completed in May 1976.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

44F. WESTVILLE LAKE, MA

Location. Dam is on Quinebaug River, 56.7 miles above its confluence with Shetucket River, in the Towns of Sturbridge and Southbridge, Massachusetts, and 1.3 miles west of center of Southbridge. (See Geological Survey maps for Southbridge, MA and RI, and East Brookfield, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in April 1960 and completed in August 1962.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

45. TOWN BROOK, QUINCY AND BRAINTREE, MA

Location. The project is located in the City of Quincy and the Town of Braintree on the south side of Massachusetts Bay, along the eastern shore of Massachusetts, seven miles south of Boston in Norfolk County. The watershed is approximately 4.5 square miles.

Existing project. Project provides for the construction of a 12-foot diameter, 4,060-foot long, concrete lined tunnel in bedrock approximately 140 to 180 feet below ground, intake and outlet structures, and improvements to the Town River downstream of the outlet shaft. The tunnel and its appurtenances will be supplemented by reconstruction of the Old Quincy Reservoir Dam, located at the headwaters of Town Brook. Reconstruction work includes a new spillway and outlet structure. The project includes $6,100,000 in approved credit for compatible work that has been accomplished by the project sponsor. Dam safety measures at Old Quincy Dam, which are estimated at $9,000,000, are a non-Federal responsibility. Construction of Town River improvements was completed in December 1994. Construction of the tunnel was completed in January 1997. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Local Cooperation Agreement (LCA) was signed on July 7, 1992 between the Corps and the Metropolitan District Commission (MDC). The MDC is required to provide all lands, easements, and rights-of-way; pay all cost for dam safety measures at Old Quincy Dam to insure its structural integrity; pay a cash contribution for the costs allocated to flood control so that the total contribution of local interests is equal to 25 percent of costs allocated to flood control; and bear all costs of operation, maintenance, and replacements. In addition, local interests must do the following: prescribe and enforce regulations to prevent encroachment on both the improvements and unimproved channels, and manage all project-related channels to preserve capacities for local drainage as well as for project functions.

Operations during fiscal year. New work: A contract for construction of the tunnel was awarded September 15, 1993. Work on this contract began in January 1994 and was completed in January 1997. Contractor earnings totaled $23,689,932 with final payment pending at FY end. A contract for reconstruction of Old Quincy Dam was awarded September 25, 1998. Work began in February 1999 and was about 95 percent complete at FY end with contractor earnings of $9,866,989.

46. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

In accordance with provisions of the Flood Control Act of 1936, as amended, local flood protection works constructed with Federal funds are transferred to local interests to operate and maintain. To insure compliance with regulations prescribed for their operation and maintenance, regular inspections of the following projects were made during the FY at a total cost of $181,113:

CONNECTICUT: August 01 – Ansonia, Derby; September 01 – Stamford, Torrington.

MAINE: No inspections in FY 2001.

MASSACHUSETTS: October 00 – Chicopee, Conway, Fitchburg, Gardner, Northampton, Springfield, West Springfield; November 00 – Lowell; May 01 – Charles River, Chicopee, Fitchburg, Gardner, Huntington, Lancaster, Three Rivers, West Springfield; June 01 – Holyoke, Leominster (bypass), Leominster (sewer), Westfield; July 01 – Ware, West Warren; August 01 – Scituate.

NEW HAMPSHIRE: October 00 – Keene (Ashuelot River), Keene (Beaver Brook), North Stratford, West Stewartstown; November 00 – Nashua; September 01 – Charlestown.

RHODE ISLAND: June 01 – Providence.

VERMONT: September 01 – Brownsville, Rockingham.

47. FLOOD CONTROL RESERVOIR OPERATIONS

A coordinated system of flood control dams, all of which have flood control as primary storage available with recreation and/or water supply as secondary storage in most of the projects, has been established in five major flood producing basins in New England. During periods of flood flows, regulation of reservoirs is fully coordinated within each basin dependent upon its location in the watershed, its available storage capacity and origin of the flood. In addition to flood control releases, water supply, flow augmentation and hydropower releases were made from selected reservoirs. Winter pools are maintained at many projects to submerge the flood control gates and keep them from freezing.

During FY 2001 there were three significant flood events, which required reservoir regulation activities. These events occurred on 17-18 December 2000, 22-23 March 2001 and 21-25 April 2001. Cumulative damages prevented from operation activities totaled $49,029,000 during FY 2001.

CONNECTICUT RIVER BASIN

Regulation for canoe and kayak activities occurred during FY 2001 at Otter Brook in March and April; Birch Hill, Tully, Littleville and Knightville in April; Ball Mountain and Townshend in April and September; and at Surry Mountain in May.

Releases for hydropower from Colebrook Lake during non-flood periods of FY 2001 were controlled by the Hartford MDC.

MERRIMACK RIVER BASIN

Blackwater Dam was regulated for canoe races in April 2001.

THAMES RIVER BASIN

Regulation for canoe and kayak activities occurred during FY 2001 at East Brimfield in April and at Mansfield Hollow Lake in June. East Brimfield also supplied small releases for low flow augmentation to American Optical Co. during the summer months.

48. HURRICANE BARRIER OPERATIONS

Five hurricane barriers are situated along the southern coast of New England, protecting coastal communities from tidal flooding associated with hurricanes and severe coastal storms. The Corps operates the navigational elements of the Stamford, CT and New Bedford-Fairhaven, MA barriers. The hurricane barriers at Fox Point, Rhode Island; Pawcatuck, Connecticut; and New London, Connecticut are operated by the local communities. A brief resume of operations for the FY follows:

STAMFORD BARRIER. The barrier gates were operated on 14 occasions for coastal storms and hurricanes during FY 2001. Total benefits associated with gate operations during FY 2001 totaled $230,000.

NEW BEDFORD BARRIER. During FY 2001, the New Bedford Barrier was operated on 11 different occasions resulting in a total of $385,000 in benefits.

FOX POINT HURRICANE BARRIER. The Fox Point Hurricane Barrier was not operated during FY 2001, as tides did not reach damaging levels.

PAWCATUCK HURRICANE BARRIER. No operations occurred at the Pawcatuck Hurricane Barrier during FY 2001, as tides did not reach damaging levels.

NEW LONDON HURRICANE BARRIER. The New London Hurricane Barrier was not operated during FY 2001, as tides did not reach damaging levels

49. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood control activities pursuant to Section 205. Public Law 80-858, as amended (preauthorization).

(See Table 1-L)

Snagging and clearing activities pursuant to Section 208 of the 1954 Flood Control Act.

(None)

Emergency Bank Protection activities pursuant to Section 14 of the 1946 Flood Control Act (preauthorization).

(See Table 1-M)

Emergency flood control activities--repair, flood fighting, and rescue work (Public Law 99, 84th Cong., and antecedent legislation.)

Federal costs for FY were $163,467 for disaster preparedness and $328,192 for emergency operations.

Environmental

50. LEBANON, NH

Location. The City of Lebanon is located in west central New Hampshire along the Connecticut River and state border with Vermont.

Existing project. Environmental infrastructure project to eliminate combined sanitary waste and storm water systems. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Formal assurances have not been requested from the City of Lebanon. The project sponsor must provide 35 percent of total project costs.

Operations during fiscal year. New work: Prepared a Decision Document and began negotiation of a draft Project Cooperation Agreement with the City of Lebanon.

51. NAUGATUCK RIVER, TORRINGTON, CT

Location. The project is located at the confluence of the East and West Branches of the Naugatuck River in Torrington, Connecticut, and extends approximately 5,000 linear feet downstream along the main stem of the Naugatuck River.

Existing project. Provides for placing approximately 300 boulders in the river channel along a 5,000-foot reach of the Naugatuck River to enhance in-stream cover and aquatic habitat diversity. The project was completed in September 2000. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Operations during fiscal year. New work: Final project costs were apportioned between the Federal and non-Federal accounts.

52. SAGAMORE MARSH, CAPE COD CANAL, MA

Location. Sagamore Marsh is located in southeastern Massachusetts in the Towns of Bourne and Sandwich, approximately 50 miles southeast of Boston, Massachusetts. The marsh lies on the north side of the Cape Cod Canal, near the canal's east end.

Existing project. Provides for enlarging culverts beneath Scussett Beach and Cape Cod Canal Service Roads, installing sluice gates and excavating channels to increase tidal flows and restore about 50 acres of salt marsh and estuarine habitat. Tidal flushing of Sagamore Marsh was restricted in the 1930s when the Cape Cod Canal was widened. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed on September 22, 1999 between the Corps and the Commonwealth of Massachusetts Department of Environmental Management. The project sponsor must provide all lands, easements, rights-of-way, including suitable borrow and dredged material disposal areas, and perform all relocations determined by the Government to be necessary for project construction; pay a cash contribution in the amount necessary to bring the non-Federal share of study and project costs including lands to 25 percent; and bear all operation, maintenance and repair costs of the project after completion.

Operations during fiscal year. New work: A contract for restoration of the salt marsh was awarded on January 10, 2000. Work began in May 2000 and was about 85 percent complete at FY end with contractor earnings of $1,193,831.

53. ENVIRONMENTAL RESTORATION WORK UNDER SPECIAL AUTHORIZATION

Project modifications for the improvement of the environment pursuant to Section 1135, Public Law 99-662, as amended (preauthorization).

(See Table 1-N)

Aquatic ecosystem restoration activities pursuant to Section 206, Public Law 99-662, as amended (preauthorization).

(See Table 1 - O)

General Investigations

54. SURVEYS

Costs for the FY for surveys from regular funds were $959,691 of which $149,966 was for two navigation studies; $415,846 for six special studies; $62,784 for one comprehensive study; and $330,374 for coordination studies.

55. COLLECTION AND STUDY OF BASIC DATA

The District Engineer is the U.S. member on the Saint Croix River Board of Control. Annual inspections are made of conditions on the Saint Croix River and basic hydrologic information is compiled. A report of operations and development in the basin was prepared in cooperation with Canadian counterparts. Total costs for the FY were $25,626. Total costs to September 30, 2001 are $413,239.

The Gulf of Maine Council on the Marine Environment was established in 1989 under an agreement signed by the Governors of Maine, New Hampshire and Massachusetts, and the Premiers of Nova Scotia and New Brunswick. The Council was tasked under this agreement to develop consistent policies, initiatives and programs designed to protect and conserve the shared natural resources of the Gulf of Maine. In April 1993, the Council requested the New England District Engineer to participate in this international program as an "observer" to the Council. In this capacity, the District Engineer is expected to attend Council meetings and support their initiatives to the extent possible. In addition to the District Engineer's direct participation, a representative of the Corps is a member of the Working Group to the Council, which implements directives of the Council. The Corps representative on the Working Group is assisting the Habitat Sub-Group to establish policies, set priorities and identify lead agencies for implementing habitat restoration projects in the Gulf of Maine. This effort includes investigating potential habitat restoration sites eligible for Corps participation under Section 1135 and coordination of input from other Federal agencies. Total costs for the FY were $13,780. Total costs to September 30, 2001 are $143,256.

Flood plain studies comprise compilation and dissemination, upon responsible local request, of information on floods and potential flood damages. Studies identify areas subject to inundation by floods of various magnitudes and frequencies, and provide general criteria for guidance in the conservation and limited use of flood plain areas, along with engineering advice in planning to ameliorate the flood hazard. Total costs for the FY were $323,163. Total costs to September 30, 2001 are $10,662,218.

The April 1987 flood was one of the largest of recent times in New England, resulting in spillway discharge at six Corps flood control reservoirs. A comprehensive hydrologic analysis of this flood event is needed to develop a base of information for use in future planning and design studies, as well as reservoir operation. Fiscal year 2001 funds were used to conduct hydrologic analysis of the 1987 flood within the Merrimack River Basin. Total costs for the FY were $9,964. Total costs to September 30, 2001 are $129,945.

56. PLANNING, ENGINEERING AND DESIGN

(None.)

57. PRECONSTRUCTION ENGINEERING AND DESIGN

Pre-construction Engineering and Design costs were $319,248 for work on the Muddy River, Massachusetts flood control and ecosystem restoration project.

TABLE 1-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY98	FY99	FY00	FY01	Total Cost to Sep. 30, 2001
1.	Aunt Lydia's Cove	New Work					
	Chatham, MA	Approp.	-	65,000	65,000	-	1,110,048
		Cost	9,000	74,295	74,295	-	1,110,048
		Maint.					
		Approp.	43,800	9,000	293,000	415,600	774,600
		Cost	43,000	8,066	293,183	415,940	774,189
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-81,813	-	102,206
		Cost	-	12,804	-2,607	-	102,206
	(Contributed	New Work					
	Funds - Other)	Contrib.	-	-	-408	-	62,292
		Cost	-	-	42	-	62,292
2.	Boston Harbor, MA	New Work					
		Approp.	5,135,000	4,084,000	2,508,000	2,800,000	40,436,974 [3]
		Cost	2,490,178	4,649,350	4,637,416	2,967,815	40,256,754 [3]
		Maint.					
		Approp.	16,090,100	2,575,358	846,300	1,156,200	31,641,149 [4]
		Cost	5,215,744	12,790,344	1,519,318	1,115,666	31,584,100 [4]
	(Contributed	New Work					
	Funds)	Contrib.	1,260,000	2,004,000	1,073,272	869,000	5,206,272
		Cost	254,603	1,820,258	2,087,725	583,834	4,746,420
	(Contributed	New Work					
	Funds - Other)	Contrib.	2,055,000	2,838,775	1,041,728	86,000	6,111,503
		Cost	212,510	3,612,692	1,903,782	148,533	5,912,433
3.	Bridgeport Harbor, CT	New Work					
		Contrib.	-	-	-	-	4,491,119
		Cost	-	-	-	-	4,491,119
		Maint.					
		Approp.	1,700	-	84,700	142,939	2,414,266
		Cost	1,700	-	84,660	139,060	2,410,347
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	147,887
		Cost	-	-	-	-	147,887
4.	Cape Cod Canal, MA	New Work					
		Approp.	-	-	-	-	21,798,322 [1,2]
		Cost	-	-	-	-	21,798,322 [1,2]
		Maint.					
		Approp.	7,137,492	10,172,000	11,506,000	9,514,605	191,581,487
		Cost	7,463,679	10,169,365	11,552,227	9,506,907	191,557,158
		Minor Rehab.					
		Approp.	-	-	-	-	390,677
		Cost	-	-	-	-	390,677
		Major Rehab.					
		Approp.	-	-	1,168,000	4,407,000	32,184,000
		Cost	-	-	243,910	4,612,864	31,465,775
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	115,432
		Cost	-	-	-	-	115,432
5.	Cocheco River, NH	New York					
		Approp.	-	-	-	-	119,089
		Cost	-	-	-	-	119,089
		Maint.					
		Approp.	16,300	-14,000	130,800	99,930	895,789
		Cost	490,115	39,278	130,557	100,697	895,700

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY98	FY99	FY00	FY01	Total Cost to Sep. 30, 2001
6.	Great Salt Pond, Block Island, RI	New Work Approp	-	-	-	-	189,037
		Cost	-	-	-	-	189,037
		Maint. Approp.	-	-	206,700	24,200	835,721
		Cost	-	-	206,043	24,801	835,665
7.	Green Harbor, MA	New Work Approp.	-	-	-	-	254,512
		Cost	-	-	-	-	254,512
		Maint. Approp.	279,400	350,600	334,500	372,166	5,517,404
		Cost	279,549	350,007	334,713	372,745	5,517,404
	(Contributed Funds)	New Work Contrib.	-	-	-	-	158,341
		Cost	-	-	-	-	158,341
8.	Hyannis Harbor, MA	New Work Approp.	1,770,000	1,600,000	3,750	-104,313	4,113,358
		Cost	1,726,077	1,648,401	-440	-99,007	4,113,358
		Maint. Approp.	231,200	919,000	64,900	67,700	2,285,463
		Cost	227,621	921,930	64,962	68,419	2,285,459
		Minor Rehab. Approp.	-	-	-	-	129,757
		Cost	-	-	-	-	129,757
	(Contributed Funds)	New Work Contrib.	732,500	87,300	-	-418,210	772,918
		Cost	161,218	241,128	34,640	-35,395	772,918
		Maint. Contrib.	127,500	-27,300	-	-47,356	52,944
		Cost	330	49,341	1,739	1,435	52,944
	(Contributed Funds-Other)	New Work Contrib.	367,900	134,800	-	-25,918	476,782
		Cost	3,025	399,361	9,347	65,049	476,782
9.	Kennebec River, NH	New Work Approp.	-	-	-	-	1,599,940
		Cost	-	-	-	-	1,599,940
		Maint. Approp.	405,400	26,600	20,800	451,565	4,975,753
		Cost	405,724	26,600	20,800	451,351	4,975,394
10.	Little Harbor, NH	New Work Approp.	-	-	-	-	133,227
		Cost	-	-	-	-	133,227
		Maint. Approp.	-	26,500	152,600	1,382,300	1,961,536
		Cost	-	26,347	152,403	1,382,684	1,961,280
11.	Lynn Harbor, MA	New Work Approp.	-	-	-	-	755,576
		Cost	-	-	-	-	755,576
		Maint. Approp.	-	10,000	204,100	367,600	844,834
		Cost	-	10,000	204,099	367,566	844,799
12.	New Bedford and Fairhaven Harbors, MA	New Work Approp.	-	-	-	-	1,857,618
		Cost	-	-	-	-	1,857,618
		Maint. Approp.	18,720	1,709	5,300	1,833	794,748
		Cost	18,720	1,709	5,743	2,265	794,664

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY98	FY99	FY00	FY01	Total Cost to Sep. 30, 2001
	(Contributed Funds)	New Work Contrib.	-	-	-	-	20,385
		Cost	-	-	-	-	20,385
13.	Plymouth Harbor, MA	New Work Approp.	-	-	-	-	2,127,218
		Cost	-	-	-	-	2,127,218
		Maint. Approp.	28,500	16,500	65,300	137,324	1,731,463
		Cost	27,911	16,500	65,688	137,677	1,731,204
		Major Rehab. Approp.	-	-	-	-	894,475
		Cost	-	-	-	-	894,475
	(Contributed Funds)	New Work Contrib.	-	-	-	-	541,611
		Cost	-	-	-	-	541,611
		Maint. Contrib.	-	-	-	-	400
		Cost	-	-	-	-	400
14.	Portland Harbor, ME	New Work Approp.	-	-	-	-	9,588,710
		Cost	-	-	-	-	9,588,710
		Maint. Approp.	72,000	2,376,500	51,800	-2,200	10,997,839
		Cost	65,189	2,381,751	52,879	-2,274	10,997,231
	(Contributed Funds)	New Work Contrib.	-	-	-5,647	-	54,353
		Cost	2,751	-	208	-	54,353
15.	Portsmouth Harbor and Piscataqua River, ME and NH	New Work Approp.	-	-	-	-	18,360,800
		Cost	-	-	-	-	18,360,800
		Maint. Approp.	87,100	31,600	52,700	675,162	3,155,460
		Cost	87,100	31,600	52,183	675,633	3,155,414
	(Contributed Funds)	New Work Contrib.	-	-	-	-	4,437,665
		Cost	-	-	-	-	4,437,665
16.	Providence River and Harbor, RI	New Work Approp.	-	-	-	-	25,417,022
		Cost	-	-	-	-	25,417,022
		Maint. Approp.	605,500	1,321,900	1,573,500	1,366,494	10,922,916
		Cost	606,319	1,334,217	1,580,494	1,307,055	10,860,706
17.	Sakonnet Harbor, RI	New Work Approp.	-	-	-	-	764,651
		Cost	-	-	-	-	764,651
		Maint. Approp.	-	-	-	50,624	442,904
		Cost	-	-	-	50,530	442,810
	(Contributed Funds)	New Work Contrib.	-	-	-	-	21,928
		Cost	-	-	-	-	21,928
18.	Salem Harbor, MA	New Work Approp.	-	-	-	-	1,693,202
		Cost	-	-	-	-	1,693,202
		Maint. Approp.	87,800	99,700	26,100	23,070	894,497
		Cost	83,067	105,038	25,730	23,928	894,405

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY98	FY99	FY00	FY01	Total Cost to Sep. 30, 2001
19.	Saugus River, MA	New Work					
		Approp.	-	80,000	645,000	2,344,313	3,721,313
		Cost	82,736	79,875	649,331	2,349,203	3,718,231
	(Contributed	New Work					
	Funds)	Contrib.	-	-	110,000	280,000	390,000
		Cost	-	-	11,678	346,718	358,396
	(Contributed	New York					
	Funds-Other)	Contrib.	-	-	-	272,840	272,840
		Cost	-	-	-	130,314	130,314
20.	Scituate Harbor, MA	New Work					
		Approp.	-	-	-	-	379,851
		Cost	-	-	-	-	379,851
		Maint.					
		Approp.	1,400	9,300	2,400	80,000	1,224,579
		Cost	1,400	9,300	2,400	80,261	1,224,248
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	69,976
		Cost	-	-	-	-	69,976
21.	Seekonk River,	New Work					
	Providence, RI	Approp.	-	-	-	-	900,000
		Cost	9,901	1	119,056	196,776	446,638
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	588,500	588,500
		Cost	-	-	-	42,590	42,590
22.	Sesuit Harbor, MA	New Work					
		Approp.	-	-	-	-	226,306
		Cost	-	-	-	-	226,306
		Maint.					
		Approp.	144,800	98,300	63,400	202,300	1,467,206
		Cost	143,950	98,900	63,625	202,480	1,467,151
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	124,588
		Cost	-	-	-	-	124,588
23.	Union River, ME	New Work					
		Approp.	-	-	-	-	146,855
		Cost	-	-	-	-	146,855
		Maint.					
		Approp.	1,300	700	81,300	1,119,064	1,569,055
		Cost	1,300	700	75,506	1,123,232	1,567,414
24.	Wells Harbor, ME	New Work					
		Approp.	-	-	-	-	360,973
		Cost	-	-	-	-	360,973
		Maint.					
		Approp.	3,600	79,500	400,100	1,645,258	4,163,700
		Cost	4,069	79,179	398,205	1,645,598	4,161,690
	(Contributed	New York					
	Funds)	Contrib.	-	-	-	-	212,000
		Cost	-	-	-	-	212,000
	(Contributed	New York					
	Funds-Other)	Contrib.	-	-	-	-	5,000
		Cost	-	-	-	-	5,000
		Maint.					
		Contrib.	-	-	396,000	52,000	448,000
		Cost	-	-	3,337	363,040	366,377
26.	Point Beach, Milford, CT	New Work					
		Approp.	20,000	2,000	8,000	421,181	831,284
		Cost	23,148	-	4,378	422,764	826,968

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY98	FY99	FY00	FY01	Total Cost to Sep. 30, 2001
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	350,000	450,000
		Cost	-	-	-	114,390	214,390
27.	Woodmont Beach,	New Work					
	Milford, CT	Approp.	20,000	123,000	678,000	-6,181	2,043,765
		Cost	47,716	100,162	707,798	-276	2,043,765
	(Contributed	New Work					
	Funds)	Contrib.	-	406,000	63,000	-3,328	1,089,515 [5]
		Cost	-	-	462,696	2,976	1,089,515 [5]
30.	Allendale Dam, North	New Work					
	Providence, RI	Approp.	-	-150,000	-	-	118,500
		Cost	-	-	-	-	109,468
31.	Aroostook River, Fort	New Work					
	Fairfield, ME	Approp.	300,084	466,000	3,394,000	615,000	4,775,084
		Cost	186,569	489,250	3,179,617	915,825	4,771,262
	(Contributed	New Work					
	Funds)	Contrib.	-	350,000	694,000	-	1,044,000
		Cost	-	6,269	769,754	173,164	949,187
32A.	West Hill Dam, MA	New Work					
		Approp.	-	-	-	-	2,306,902 [6]
		Cost	-	-	-	-	2,306,902 [6]
		Maint.					
		Approp.	573,000	1,000,000	981,000	668,609	11,354,307
		Cost	562,653	1,008,370	979,224	672,317	11,349,185
		Major Rehab.					
		Approp.	-	-	-	2,500,000	2,500,000
		Cost	-	-	-	2,362,455	2,362,455
33.	Charles River	New Work					
	(Natural Valley	Approp.	-	-	-	-	8,606,000
	Storage Areas), MA	Cost	-	-	-	-	8,606,000
		Maint.					
		Approp.	154,000	209,000	251,000	200,542	3,126,885
		Cost	155,700	205,959	255,250	201,068	3,126,852
34A.	Ball Mountain	New Work					
	Lake, VT	Approp.	-	-	-	-	11,107,842 [7]
		Cost	-	-	-	-	11,107,842 [7]
		Maint.					
		Approp.	651,000	694,000	867,000	1,134,695	15,445,418
		Cost	775,410	666,565	903,174	1,134,907	15,443,946
34B.	Barre Falls Dam, MA	New Work					
		Approp.	-	-	-	-	1,967,819
		Cost	-	-	-	-	1,967,819
		Maint.					
		Approp.	363,000	410,000	506,000	540,409	10,254,469
		Cost	485,082	443,252	494,453	550,135	10,251,544
34C.	Birch Hill Dam, MA	New Work					
		Approp.	-	-	-	-	4,815,679 [8]
		Cost	-	-	-	-	4,815,679 [8]
		Maint.					
		Approp.	428,000	824,000	674,000	551,456	11,468,506
		Cost	463,246	852,015	659,078	558,777	11,451,720
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	32,000 [9]
		Cost	-	-	-	-	32,000 [9]
34D.	Colebrook River	New Work					
	Lake, CT	Approp.	-	-	-	-	14,263,971
		Cost	-	-	-	-	14,263,971

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY98	FY99	FY00	FY01	Total Cost to Sep. 30, 2001
		Maint.					
		Approp.	393,000	831,000	420,000	401,542	7,701,069
		Cost	387,628	842,431	413,939	401,857	7,694,084
34E.	Conant Brook	New Work					
	Dam, MA	Approp.	-	-	-	-	2,950,530
		Cost	-	-	-	-	2,950,530
		Maint.					
		Approp.	134,000	137,000	192,000	201,384	3,058,081
		Cost	136,565	133,134	194,023	201,350	3,056,694
34F.	Knightville Dam,	New Work					
	MA	Approp.	-	-	-	-	3,415,640 [10]
		Cost	-	-	-	-	3,415,640 [10]
		Maint.					
		Approp.	509,000	515,000	718,000	690,161	12,302,607
		Cost	498,589	533,998	537,847	740,820	12,171,352
34G.	Littleville Lake,	New Work					
	MA	Approp.	-	-	-	-	7,013,412
		Cost	-	-	-	-	7,013,412
		Maint.					
		Approp.	393,000	463,000	398,000	439,209	8,652,636
		Cost	439,018	468,780	395,871	443,229	8,652,531
34H.	North Hartland	New Work					
	Lake, VT	Approp.	-	-	-	-	7,312,225 [11]
		Cost	-	-	-	-	7,312,225 [11]
		Maint.					
		Approp.	686,200	565,000	509,000	562,794	10,859,037
		Cost	698,087	578,559	513,299	563,421	10,857,475
34I.	North Springfield	New Work					
	Lake, VT	Approp.	-	-	-	-	6,831,526 [12]
		Cost	-	-	-	-	6,831,526 [12]
		Maint.					
		Approp.	583,008	750,000	623,000	843,846	15,782,003
		Cost	573,045	768,897	626,182	847,218	15,781,861
34J.	Otter Brook	New Work					
	Lake, NH	Approp.	-	-	-	-	4,360,448 [13]
		Cost	-	-	-	-	4,360,448 [13]
		Maint.					
		Approp.	547,000	500,000	478,000	530,509	10,679,806
		Cost	543,730	503,533	480,159	531,558	10,679,480
34K.	Surry Mountain	New Work					
	Lake, NH	Approp.	-	-	-	-	2,833,610 [14]
		Cost	-	-	-	-	2,833,610 [14]
		Maint.					
		Approp.	653,200	444,000	500,000	451,991	11,346,682
		Cost	651,630	445,607	505,234	452,200	11,346,233
34L.	Townshend Lake,	New Work					
	VT	Approp.	-	-	-	-	8,540,545 [15]
		Cost	-	-	-	-	8,540,545 [15]
		Maint.					
		Approp.	610,000	685,000	1,077,000	765,647	14,354,065
		Cost	653,801	685,7181	989,028	859,661	14,352,938
34M.	Tully Lake, MA	New Work					
		Approp.	-	-	-	-	1,666,752 [16]
		Cost	-	-	-	-	1,666,752 [16]
		Maint.					
		Approp.	374,000	400,000	427,000	516,262	10,186,987
		Cost	387,723	407,233	412,733	525,724	10,181,074

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY98	FY99	FY00	FY01	Total Cost to Sep. 30, 2001
	(Contributed Funds)	New Work Contrib.	-	-	-	-	40,000 [9]
		Cost	-	-	-	-	40,000 [9]
34N.	Union Village Dam, VT	New Work Approp.	-	-	-	-	4,095,160 [17]
		Cost	-	-	-	-	4,095,160 [17]
		Maint. Approp.	388,600	576,000	515,000	446,302	9,742,295
		Cost	381,376	583,342	516,206	447,490	9,741,361
35.	Faulkner Island, CT	New Work Approp.	-	18,000	-	1,650,000	3,168,000
		Cost	247,445	105,050	366,697	2,277,637	3,147,917
36.	Fox Point Barrier, RI	New Work Approp.	-	-	-	-	11,112,801
		Cost	-	-	-	-	11,112,801
		Major Rehab. Approp.	-	-	-	444,000	444,000
		Cost	-	-	-	32,899	32,899
	(Contributed Funds)	New Work Contrib.	-	-	-	-	3,679,500 [32]
		Cost	-	-	-	-	3,679,500 [32]
37A.	Black Rock Lake, CT	New Work Approp.	-	-	-	-	8,182,300
		Cost	-	-	-	-	8,182,300
		Maint. Approp.	316,000	568,000	446,000	309,436	6,840,017
		Cost	299,410	580,463	453,619	304,355	6,833,650
37B.	Hancock Brook Lake, CT	New Work Approp.	-	-	-	-	4,178,911
		Cost	-	-	-	-	4,178,911
		Maint. Approp.	205,000	201,000	232,000	258,122	3,421,056
		Cost	179,395	224,825	234,876	255,750	3,418,198
37C.	Hoosic River, Syndicate Road, Williamstown, MA	New Work Approp.	-	12,000	56,000	50,100	118,100
		Cost	-	8,411	55,340	54,081	117,832
37D.	Hop Brook Lake, CT	New Work Approp.	-	-	-	-	6,151,562 [18]
		Cost	-	-	-	-	6,151,562 [18]
		Maint. Approp.	884,000	867,000	827,000	802,639	17,226,464
		Cost	864,285	885,810	831,829	790,809	17,208,607
37E.	Northfield Brook Lake, CT	New Work Approp.	-	-	-	-	2,850,512 [19]
		Cost	-	-	-	-	2,850,512 [19]
		Maint. Approp.	334,000	416,000	309,000	363,860	6,308,568
		Cost	346,340	416,610	328,898	346,641	6,290,573
37F.	Thomaston Dam, CT	New Work Approp.	-	-	-	-	14,282,112
		Cost	-	-	-	-	14,282,112
		Maint. Approp.	472,000	846,000	1,028,000	674,051	12,944,393
		Cost	423,367	893,171	1,030,589	663,827	12,933,147
38A.	Blackwater Dam, NH	New Work Approp.	-	-	-	-	1,319,746 [20]
		Cost	-	-	-	-	1,319,746 [20]

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY98	FY99	FY00	FY01	Total Cost to Sep. 30, 2001
		Maint. Approp.	369,000	445,000	532,000	524,164	8,046,258
		Cost	370,261	447,972	532,762	524,189	8,046,239
38B.	Edward MacDowell Lake, NH	New Work Approp.	-	-	-	-	2,014,253 [21]
		Cost	-	-	-	-	2,014,253 [21]
		Maint. Approp.	424,000	550,000	518,000	442,414	9,079,983
		Cost	442,317	569,142	518,869	442,445	9,079,983
38C.	Franklin Falls Dam, NH	New Work Approp.	-	-	-	-	7,950,487 [22]
		Cost	-	-	-	-	7,950,487 [22]
		Maint. Approp.	853,000	887,000	579,000	1,015,972	14,720,058
		Cost	880,278	898,613	581,465	1,016,019	14,720,043
38D.	Hopkinton-Everett Lakes, NH	New Work Approp.	-	-	-	-	21,452,440 [23]
		Cost	-	-	-	-	21,452,440 [23]
		Maint. Approp.	948,000	1,364,000	1,316,000	1,197,884	22,473,476
		Cost	906,863	1,407,794	1,318,170	1,197,964	22,473,270
38E.	North Nashua River, Lancaster, MA	New Work Approp.	74,000	5,000	143,000	10,000	258,129
		Cost	73,836	15,333	141,428	11,161	255,424
	(Contributed Funds)	New Work Contrib.	-	-	112,000	-	112,000
		Cost	-	-	69,204	41,422	110,626
39.	New Bedford, Fairhaven, and Acushnet, MA	New Work Approp.	-	-	-	-	11,510,088
		Cost	-	-	-	-	11,510,088
		Maint. Approp.	183,800	329,000	280,000	369,968	8,169,589
		Cost	186,510	325,229	282,978	367,693	8,165,796
	(Contributed Funds)	New Work Contrib.	-	-	-	-	6,513,763 [24]
		Cost	-	-	-	-	6,513,763 [24]
40.	Quonset Point, Davisville, RI	New Work Approp.	-	-	-111,071	-	2,288,929
		Cost	1,889,590	22,186	-82,898	-	2,286,031
	(Contributed Funds)	New Work Contrib.	702,000	-	-	-	1,082,000
		Cost	804,377	140,546	85,314	-	1,044,616
41.	Roughans Point, Revere, MA	New Work Approp.	1,766,000	2,492,000	-	30,000	8,238,779
		Cost	2,623,273	3,889,327	54,153	26,823	8,232,943
	(Contributed Funds)	New Work Contrib.	-	1,600,000	-	144,329	3,144,329
		Cost	777,689	1,325,089	398,580	243,191	2,744,550
42.	Saint John River Basin, ME	New Work Approp.	-	-	-	-	517,000
		Cost	857	-	563	-	447,943
43.	Stamford, CT	New Work Approp.	-	-	-	-5,000	9,901,300
		Cost	-	-	-	-	9,900,639
		Maint. Approp.	382,000	270,000	340,000	361,831	8,405,022
		Cost	471,079	278,425	364,678	362,275	8,402,571

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY98	FY99	FY00	FY01	Total Cost to Sep. 30, 2001
	(Contributed Funds)	New Work Contrib.	-	-	-	-	3,367,970 [25]
		Cost	-	-	-	-	3,367,453 [25]
	(Contributed Funds - Other)	New Work Contrib.	-	-	-	-	210,000
		Cost	-	-	-	-	209,969
44A.	Buffumville Lake, MA	New Work Approp.	-	-	-	-	2,998,603 [26]
		Cost	-	-	-	-	2,998,603 [26]
		Maint. Approp.	408,000	480,000	497,000	446,224	8,809,240
		Cost	410,116	482,284	491,053	452,218	8,807,030
44B.	East Brimfield Lake, MA	New Work Approp.	-	-	-	-	7,057,043 [27]
		Cost	-	-	-	-	7,057,043 [27]
		Maint. Approp.	322,000	327,000	421,000	345,426	7,612,865
		Cost	323,170	329,914	421,231	345,906	7,611,301
44C.	Hodges Village Dam, MA	New Work Approp.	-	-	-	-	4,461,268 [28]
		Cost	-	-	-	-	4,461,268 [28]
		Maint. Approp.	364,000	385,000	457,000	473,007	12,038,954
		Cost	361,427	391,486	452,400	478,231	12,037,359
		Major Rehab. Approp.	7,419,000	8,051,000	966,000	-20,000	18,416,000
		Cost	8,855,338	8,222,147	990,409	5,297	18,416,000
44D.	Mansfield Hollow Lake, CT	New Work Approp.	-	-	-	-	6,447,164 [29]
		Cost	-	-	-	-	6,447,164 [29]
		Maint. Approp.	318,000	361,000	521,000	379,280	9,041,879
		Cost	337,823	368,152	520,460	376,302	9,036,840
44E.	West Thompson Lake, CT	New Work Approp.	-	-	-	-	7,001,220 [30]
		Cost	-	-	-	-	7,001,220 [30]
		Maint. Approp.	451,000	795,000	518,000	559,912	10,647,909
		Cost	477,714	800,983	521,555	554,912	10,642,728
44F.	Westville Lake, MA	New Work Approp.	-	-	-	-	5,684,683 [31]
		Cost	-	-	-	-	5,684,683 [31]
		Maint. Approp.	373,000	434,500	432,000	372,265	8,710,324
		Cost	409,175	437,802	432,485	369,635	8,705,387
45.	Town Brook, Quincy and Braintree, MA	New Work Approp.	657,000	2,829,000	1,286,000	324,000	33,175,740
		Cost	1,320,304	3,105,231	1,368,752	367,922	33,113,564
	(Contributed Funds)	New Work Contrib.	-	615,000	670,000	-	4,020,000
		Cost	268,538	771,607	426,902	191,681	3,816,304
	(Contributed Funds - Other)	NewWork Contrib.	1,000,000	-615,000	3,674,889	-	8,969,889
		Cost	480	3,173,111	2,485,128	1,381,558	8,000,825
50.	Lebanon, NH	New Work Approp.	-	-	-	457,000	457,000
		Cost	-	-	-	50,304	50,304

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY98	FY99	FY00	FY01	Total Cost to Sep. 30, 2001
51.	Naugatuck River, Torrington, CT	New Work Approp.	37,000	23,000	52,521	-16,194	96,327
		Cost	7,248	52,511	21,653	14,915	96,327
	(Contributed Funds)	New Work Contrib.	-	-	42,000	-9,891	32,109
		Cost	-	-	34,700	-2,591	32,109
52.	Sagamore Marsh, Cape Cod Canal, MA	New Work Approp.	50,000	30,000	1,220,000	194	1,822,694
		Cost	57,474	55,258	1,089,129	124,226	1,813,113
	(Contributed Funds)	New Work Contrib.	-	-	380,500	229,500	610,000
		Cost	-	-	144,600	399,481	544,081

[1] Excludes $ 6,138,157 from Public Works Funds and $4,849,740 from Emergency Relief Funds.
[2] Includes $389,929 Code 711 funds and $511,089 Code 713 funds.
[3] Excludes $935,303 Emergency Relief Funds and $1,030,806 Public Works Funds.
[4] Excludes $17,767 Contributed Funds.
[5] Excludes $118,215 expended for work beyond scope of project.
[6] Includes $18,310 Code 711 funds.
[7] Includes $504,062 Code 711 funds and $67,066 for fish passage facility.
[8] Includes $618,469 Code 711 funds and $32,000 Code 713 Funds.
[9] Recreational cost sharing.
[10] Includes $199,303 Code 711 funds.
[11] Includes $229,436 Code 711 funds.
[12] Includes $59,536 Code 711 funds.
[13] Includes $364,688 Code 711 funds.
[14] Includes $470,077 Code 711 funds.
[15] Includes $245,168 Code 711 funds and $1,117,494 for fish passage facility.
[16] Includes $3,695 Code 711 funds and $115,138 Code 713 funds.
[17] Includes $88,931 Code 711 funds.
[18] Includes $143,538 Code 711 funds.
[19] Includes $20,000 Code 711 funds.
[20] Includes $2,881 Code 711 funds.
[21] Includes $6,432 Code 711 funds.
[22] Includes $4,671 Code 711 funds.
[23] Includes $179,727 Code 711 funds.
[24] Excludes $146,020 expended to date for land condemnation.
[25] Excludes $199,410 expended to date for land condemnations.
[26] Includes $71,943 Code 711 funds.
[27] Includes $207,700 Code 711 funds.
[28] Includes $6,255 Code 711 funds and $40,353 Code 713 funds.
[29] Includes $68,717 Code 711 funds.
[30] Includes $315,420 Code 711 funds.
[31] Includes $67,667 Code 711 funds.
[32] Excludes $245,000 expended for land condemnation.

TABLE 1-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	AUNT LYDIA'S COVE, CHATHAM, MA (See Section 1 of Text.)	
July 14, 1960 as amended	Entrance channel 100 feet wide by 900 feet long and 9.5 acre anchorage area, both 8 feet deep.	P.L. 86-645, Section 107. Authorized by the Chief of Engineers August 31, 1994.
	BOSTON HARBOR, MA (See Section 2 of Text.)	
March 2, 1825	Preservation of islands and seawalls.	
June 14, 1880	Weir River (Nantucket Beach Channel) 9.5 ft. deep. 100 ft. wide to Steamboat Wharf at Nantasket.	Annual Report, 1881, p. 518
August 5, 1886	Fort Point Channel. [1]	H. Ex. Doc. 206,48th Cong., 2nd sess., Annual Report, 1885, p. 543.
September 19,1890	Weir River (Nantucket Beach Channel) 9.5 ft. deep. 150 ft. wide to Steamboat Wharf at Nantasket.	Annual Report, 1890, p. 503
July 25, 1892	Weir River (Nantucket Beach Channel) from mouth of Weir River to Steamboat Wharf at Nantasket Beach 12 ft. deep, 150 ft. wide.	Annual Report, 1893, p. 769
	Channel 15 feet deep from Long Island to Nixes Mate Shoal (Nixes Mate to Nubble Channel).	Annual Report, 1887, p.517
July 13, 1892	Channel 27 feet from Nantasket Roads to President Roads.	Annual Report, 1893, p. 766
June 3, 1896	Dredge Chelsea River Channel to 18 feet.	H. Ex. Doc. No. 162,53rd Cong., 3rd sess., Annual Report, 1895, p. 648
March 3, 1899	For 30-foot channel from sea to President Roads through Broad Sound by less direct route than 35 and 40-foot channels.	H. Doc. 133, 55th Cong., 2nd sess. Annual Report, 1898, p. 886.
June 13, 1902	For 35-foot channel from sea to Boston Naval Shipyard. Chelsea and Charles River Bridges.	H. Doc. 119, 56th Cong., 2nd sess. Annual Report, 1901, p. 1096
	Elimination from project of removal of Finns Ledge at outer entrance.	Authorized by Chief of Engineers. March 11, 1913.
July 25, 1912	Dredge Chelsea River channel 25 ft.	H. Doc. 272, 62nd Cong., 2ndsess.[2]
August 8, 1917	Depth of 40 feet (45 feet in rock) in Broad Sound Channel.	H. Doc. 931, 63rd Cong., 2nd sess.[2]
August 30, 1935 [3]	Present project dimensions of channel from President Roads to Commonwealth pier No. 1, East Boston and anchorage area north side of President Roads.	H. Doc. 244, 72nd Cong., 1st sess.[2]
Do.	Present project dimensions of that part of approach channel to U.S. Navy dry-dock No.3 at South Boston between Main Ship Channel and U.S. harbor line.	Rivers and Harbors Committee Doc. 29, 74th Cong., 1st sess. [2]
August 26, 1937	Chelsea River, channel 30 feet deep.	Rivers and Harbors Committee Doc. 24, 75th Cong., 1st sess. [2]
October 17, 1940	Reserved channel 30 feet deep.	H. Doc. 225, 76th Cong., 1st sess. [2]
September 7, 1940	Abandons seaplane channel authorized in 1940 River and Harbor Act (H.Doc.262,76th Cong., 1st sess.)	Public Law 420,78th Cong.
March 2, 1945	Extension of 40-foot channel.	H. Doc. 733, 79th Cong., 2nd sess.
July 24, 1946	Extension of President Roads anchorage.	H. Doc. 244, 80th Cong., 1st sess. [2]
July 3, 1958	Reserved channel 35 feet deep, 430 feet wide, extending one	H. Doc. 349, 84th Cong., 2nd sess.[2]
October 23, 1962	Chelsea River Channel and Maneuvering Basin 35 feet deep.	H. Doc. 350, 87th Cong., 2nd sess. [2]
January 1, 1990	Deauthorizes 1945 Act.	Federal Register Volume 55, No. 194, October 5, 1990.
November 28, 1990	Deepen Mystic River and Reserved Channels to 40 feet; Chelsea River Channel to 38 feet; widen and deepen Inner Confluence Area to 40 feet; mark Presidents Roads Channel and expand Presidents Roads Anchorage from 353 to 420 acres.	Section 101, Public Law 101-640.
October 31, 1992	Deauthorizes portion of the 35-foot channel in Boston Inner Harbor lying easterly of the Charlestown waterfront authorized in 1902 River and Harbor Act.	Section 116(2), P.L. 102-580

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
October 12, 1996	Deauthorizes portion of the 35-foot Chelsea River Channel authorized in the 1962 Act.	Section 364(12), P.L. 104-303
October 12, 1996	Deauthorizes portion of the 40-foot Reserved Channel authorized in the 1990 Act.	Section 364(16), P.L. 104-303
	BRIDGEPORT HARBOR, CT (See Section 3 of Text.)	
July 4, 1836	Fayerweather Island seawall.	
March 3, 1899	Shore protection of Fayerweather Island.	Annual Report, 1899, page 1173
March 2, 1907	West breakwater and present project dimensions of east breakwater.	H. Docs. 275 and 521, 59th Cong., 2nd sess.
March 2, 1919	Present project depths of 18-and 12-foot anchorage basins.	H. Doc. 898, 63rd Cong., 2nd sess.
July 3, 1930	25-foot entrance channel, 25-foot anchorage and an 18-foot channel through Johnsons River, present project dimensions of channels through Poquonock River, Yellow Mill Pond, Black Rock Harbor and Cedar Creek.	H. Doc. 281,71st Cong., 2nd sess.
August 26, 1937	25-foot channel through main harbor, and present Project location and extent of 18- and 12-foot anchorage basins.	H. Doc. 232, 75th Cong., 1st sess.
March 2, 1945	30-foot channel; elimination of 12-foot anchorage.	H. Doc. 819, 76th Cong., 3rd sess.
July 24, 1946	30-foot turning basin and 15- and 9-foot channels in Johnsons River	H. Doc. 680, 79th Cong., 2nd sess. [4]
July 3, 1958	Present depth and extend of main channel, and turning Basin south and southeast of Cilco Terminal; Black Rock Harbor breakwater; Burr and Cedar Creek anchorage. Upper Johnsons River anchorage; lower Johnsons River anchorage.	H. Doc. 136, 85th Cong.
November 2, 1979	Deauthorizes the removal of rock in Yellow Mill Pond authorized in the 1930 Act.	H. Doc. 157, 96th Cong., 1st sess.
November 17, 1986	Deauthorizes construction of two rubble-mound breakwaters at the entrance to Black Rock Harbor and dredging a 28-acre anchorage 6 feet deep in Burr and Cedar Creeks at the head of Black Rock Harbor authorized In the 1958 Act.	Sec, 1002, P. L. 99-662
October 12, 1996	Deauthorizes two-acre anchorage area at the head of the Johnsons River authorized in the 1958 Act, and portion of the Johnsons River navigation channel authorized in the 1946 Act.	Section 364 (2) (A) & (B), P.L. 104-303
August 17, 1999	Deauthorizes a 2.4-acre anchorage area, 9 feet deep , and an adjacent 0.6-acre anchorage area, 6 feet deep, located on the west side of the Johnsons River authorized in the 1958 Act.	Section 365 (a) (1), P.L. 106-53
	CAPE COD CANAL, MA (See Section 4 of Text.)	
January 21, 1927 (Section 2)	Purchase canal from Boston, Cape Cod & New York Canal Co., in accordance with contract dated July 29, 1921, executed by that company.	H. Doc. 139, 67th Cong., 2nd sess.
Included in Public Works Administration program, September 6, 1933	Construct three bridges and widen canal to 250 feet.	H. Doc. 795, 71st. Cong., 3rd sess.
June 26, 1934 (Permanent Appropriations Repeal Act)	Operation and care of works of improvement provided for the funds from War Department appropriations for rivers and harbors.	Do.

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
Included in Public Works Administration program, April 29, 1935	Construct a mooring basin.	Do.
Included in Emergency Relief Program, May 28, 1935.	Dredging and bank protection.	Do.
August 30, 1935	Existing project for main canal adopted.	Rivers and Harbor Committee Doc. 15, 74th Cong., 1st sess.
March 2, 1945	Channel and turning basin 15-feet deep in Onset Bay.	H. Doc. 431, 77th Cong., 1st sess.
July 3, 1958	Extend East Boat Basin for an area of about 4.3 acres to a depth of eight feet.	H. Doc. 168, 85th Cong., 1st sess.
August 17, 1999	Authorizes Secretary to pay up to $300,000 for alternate transportation during rehabilitation of the Railroad Bridge.	Section 536, P.L. 106-53.
	COCHECO RIVER, NH (See Section 5 of Text.)	
September 19, 1890	Provides for a 3 mile long tidewater channel 7 feet deep and 60 to 70 feet wide.	H. Doc. 74, 51st Cong. 1st sess.
October 12, 1996	Deauthorizes portion of 1890 Act and directs maintenance dredging of the remaining project.	Section 365(18), P.L. 104-303
	GREAT SALT POND, BLOCK ISLAND, RI (See Section 6 of Text.)	
June 3, 1896	Channel and jetties.	H. Doc. 57, 54th Cong., 1st sess.
June 13, 1902	Extending south jetty and dredging.	Specified in Act. Annual Report for 1900, p. 1276.
March 2, 1945	Channel and basin in inner harbor.	H. Doc. 330, 77th Cong., 1st sess.
November 17, 1986	Deauthorizes the 1,200-foot long north jetty at the entrance to Great Salt Pond, authorized in the 1896 Act, and the 12-foot Access channel and basin in the inner harbor authorized in the 1945 Act.	Sec. 1002, P.L. 99-662.
	GREEN HARBOR, MA (See Section 7 of Text.)	
July 14, 1960 as amended	Channel six feet deep, 100 feet wide from deep water to head of navigation; anchorage near town pier; sealing, rebuilding in part and extension of existing west jetty.	Section 107, P.L. 86-645 Authorized by the Chief of Engineers December 15, 1965.
August 17, 1999	Deauthorizes portion of the 6-foot channel and turning basin, and redesignates portion of 6-foot channel as an anchorage area.	Section 365 (a)(11) & (d), P.L. 106-53.
	HYANNIS HARBOR, MA (See Section 8 of Text.)	
March 2, 1827	Breakwater.	S. Doc. 32, 18th Cong., 2nd sess.
July 11, 1871	Present dimensions of breakwater.	H. Doc. 63, 41st Cong., 2nd sess.
August 5, 1886	Dredging behind breakwater.	H. Ex. Doc. 96, 48th Cong., 2nd sess.
March 2, 1945	Channel, anchorage and jetty.	H. Doc. 98, 77th Cong., 1st sess.
July 14, 1960 as amended	Deepen channel and basin to 13 feet, realign the entrance channel through the outer harbor to straighten the approach, and widen the channel to 240 feet from the outer harbor through most of Lewis Bay and to 220 feet from there to the entrance of the Inner Harbor.	P.L. 86-645, Section 107. Authorized by the Chief of Engineers August 19, 1997.
	LYNN HARBOR, MA (See Section 11 of Text.)	
August 2, 1882	Lynn Channel 200 feet wide and 10 feet deep.	
August 11, 1888	Extends the inner channel 400 feet and provides for an anchorage basin 500 feet by 300 feet, also to 10 feet deep.	
July 13, 1892	Western Channel leading to the Saugus River 8 feet deep and 150 feet wide.	
June 13, 1902	Deepen Lynn Channel and anchorage basin to 15 feet deep.	

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
June 25, 1910	Widen Lynn Channel to 300 feet, straighten the curve and enlarge the anchorage basin to 500 feet square.	H. Doc. 948, 60th Cong., 1st sess.
July 3, 1930	Deepen Lynn Channel to 22 feet and widen turning basin to 550 feet.	Rivers and Harbors Committee Doc. 7, 71st Cong., 1st sess.
August 30, 1935	Deepen Lynn Channel to 25 feet.	Rivers and Harbors Committee Doc. 7, 71st Cong., 1st sess.
September 3, 1954	Provides for the easterly 300 feet of the Municipal Channel.	H. Doc. 568, 81st Cong., 2nd sess.
November 17, 1986	Deauthorizes the easterly 300 feet of the Municipal Channel and Deepening of the Lynn Channel from 22 to 25 feet.	Section 1002, P. L. 99-662.
	NEW BEDFORD AND FAIRHAVEN HARBOR, MA (See Section 12 of Text.)	
March 2, 1907	The 25-foot anchorage area north of Palmer Island	H. Doc. 271, 59th Cong., 2nd sess.
March 3, 1909	Extension of the 25-foot channel along New Bedford wharf front.	Specified in act.
July 25, 1912	The 18-foot channel in Acushnet River to Belleville (project feature was abandoned by Congress in 1955).	H. Doc. 442, 62nd Cong., 2nd sess.
July 3, 1930	The 30-foot channel, anchorage, and maneuvering area (channel limited to width of 350 feet).	H. Doc. 348, 71st Cong., 2nd sess.
August 30, 1935	Present project dimensions of the anchorage area north of Palmer Island and maintenance of the 25-foot anchorage. Elimination from the project of the prior authorization for enlarging and deepening the maneuvering area 30-feet deep east of the harbor channel.	Rivers and Harbors Committee Doc. 16, 74th Cong., 1st sess.
August 26, 1937	The 15-foot and 10-foot channels along Fairhaven wharf.	Rivers and Harbors Committee Doc. 25, 75th Cong., 1st sess.
November 17, 1986	Deauthorizes the 18-foot channel in Acushnet River to Bellville authorized in the 1912 Act.	Section 1002, P. L. 99-662.
August 17, 1999	Deauthorizes portion of the 25-foot spur channel leading to the west of Fish Island authorized in the 1909 Act, and portion of the 30-foot maneuvering area authorized in the 1930 Act.	Section 365 (a) (10), P. L. 99-662.
	PLYMOUTH HARBOR, MA (See Section 13 of Text.)	
March 3, 1899	Beach Protection.	Annual Report for 1899, p. 1089.
March 4, 1913	Dredging 18-foot channel.	H. Doc. 1194, 62nd Cong., 3rd sess
September 22, 1922	Dredging 15-foot extension, including turning basin.	H. Doc. 996, 66th Cong., 3rd sess.
October 23, 1962	Rubblestone breakwater. Anchorages are eight feet deep inside breakwater. Elimination of authorized 18-foot anchorage from existing project.	H. Doc. 124, 87th Cong., 2nd sess.
July 9, 1965	Recreational development.	
	PROVIDENCE RIVER AND HARBOR, RI (See Section 16 of Text.)	
August 26, 1937	Channel 35 feet deep from deep water in Narragansett Bay to Fox Point.	H. Doc. 173, 75th Cong., 1st sess.
October 18, 1965	Deepen 35-foot channel to 40 feet, and provide a 30-foot channel from the upper end of the existing project to India Point at the mouth of the Seekonk River. (The India Point channel was deauthorized in November 1986.)	S. Doc. 93, 88th Cong., 2nd sess.
	SAKONNET HARBOR, RI (See Section 17 of Text.)	
July 4, 1836	Breakwater	H. Doc. 154, 20th Cong., 1st sess.
March 3, 1899	Prolonging old breakwater and raising it to 8 feet above mean low water, to width of 15 feet.	H. Doc. 81, 55th Cong., 1st sess. and Annual Report 1897, p. 934.
March 2, 1907	Rock removal near breakwater.	H. Doc. 99, 56th Cong., 2nd sess. And Annual Report 1901, p. 1148

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
September 4, 1954	Breakwater extension and harbor dredging.	H. Doc. 436, 82nd Cong., 2nd sess.
July 14, 1960, as amended	A 500-foot rubble-mound breakwater and a 110-foot wide by 100-foot deep navigation channel.	Section 107, P.L. 86-645. Authorized by the Chief of Engineers June 25, 1981.
July 14, 1960, as amended	Authorization withdrawn for construction of a 500-foot rubble-mound breakwater and a 110-foot wide by 100-foot deep navigation channel.	Section 107, P.L. 86-645. Deauthorized by the Chief of Engineers in June 1982.
	SALEM HARBOR, MA (See Section 18 of Text.)	
March 3, 1873	Channel 8 feet deep and 300 feet wide at entrance to South River, and construction of a seawall and breakwater for the protection of Long Point.	S. Ex. Doc. 25, 42nd Cong., 3rd sess.
September 19, 1890	Extends channel 6 to 8 feet deep and 50 to 150 feet wide up South River.	H. Ex. Doc. 28, 51st Cong., 1st sess.
March 3, 1905	Channel 10 feet deep and 200 to 300 feet wide at entrance to South River.	H. Doc. 303, 58th Cong., 2nd sess.
July 3, 1930	Main Ship Channel 25 feet deep and 300 feet wide, and removal of shoal near Abbot Rock Beacon.	H. Doc. 112, 70th Cong., 1st sess.
March 2, 1945	Main Ship Channel 30 feet deep.	H. Doc. 701, 76th Cong., 3rd sess.
July 3, 1958	Main Ship Channel 32 feet deep and 300 to 400 feet wide.	H. Doc. 31, 85th Cong., 1st sess.
July 9, 1995	Deauthorizes uncompleted portions of the 1905 Act.	Federal Register Vol. 61, No. 244
November 17, 1986	Deauthorizes extending the 10-foot channel in the South River and a branch channel with an anchorage basin on the east side of Derby Warf as authorized in the 1945 Act.	Section 1002, P. L. 99-662.
	SAUGUS RIVER, MA (See Section 19 of Text.)	
July 14, 1960	Entrance Channel 8 feet deep and 80 to 150 feet wide, and two anchorage areas 6 feet deep and totaling 4.3 acres	P. L. 86-645, Section 107. Authorized by the Chief of Engineers on May 15, 2000
	SEEKONK RIVER, PROVIDENCE, RI (See Section 21 of Text.)	
November 17, 1986	Removal of abandoned India Point Railroad Bridge.	Section 1166(c), P.L. 99-662.
December 18, 1991	Extends project authorization.	Section 1085, P.L. 102-240 of the Intermodal Surface Transportation Infrastructure Act of 1991.
October 12, 1996	Increases total project cost.	Section 301 (a) (13), P.L. 104-303
	SESUIT HARBOR, MA (See Section 22 of Text.)	
July 14, 1960 as amended	Channel 6 feet deep and 100 feet wide.	Section 107, P.L. 86-645 Authorized by the Chief of Engineers February 6, 1980.
	UNION RIVER, ME (See Section 23 of Text.)	
	Provides for the removal of ledge, boulders and mill waste to create a channel 3 to 4 feet deep from the mouth of the Union River to the wharves at Ellsworth; along with installing navigation beacons.	Report of District Engineer dated June 30, 1867.
June 3, 1896	Channel 6 feet deep, 100 to 1500 feet wide from the head of Union River Bay to the wharves at Ellsworth, and construction of a jetty and training wall at the mouth of Union River near Nortons Rocks. (Funds for construction of the jetty and the training wall were never appropriated and this work was subsequently omitted from the project.)	H. Doc. 138, 51st Cong., 1st sess.
	WELLS HARBOR, ME (See Section 24 of Text.)	
1835	Stone-filled timber crib pier (jetty) at the mouth of the Wells Inlet.	
June 10, 1872	Repairs to old government cribwork pier, about 750 feet long, at north side of harbor entrance.	River & Harbor Act of 1872

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
July 14, 1960	Construction of two stones jetties at inlet (south-940 feet long, north-640 feet long), 8-foot entrance channel, 6-foot inner channel, 6-foot by 7.4-acre anchorage.	P.L. 86-645, Section 101. H. Doc. 202, 86th Cong., 2nd sess.
July 14, 1960	Extend north jetty 100 feet. Increase design elevations of both jetties. 680-foot long stone revetment for tip of Wells beach at municipal parking area. Add rough stone wave absorber to inner 100 feet of south jetty.	Design Modification Authorized by the Chief of Engineers September 24, 1962.
July 14, 1960	Further extend north jetty by 1,225 feet. Extend south jetty by 1,300 feet. Dredge 10-foot by 3.1-acre inner harbor settling basin.	Design Modification Authorized by the Chief of Engineers September 20, 1965.
August 17, 1999	Modified dredged features of existing project to deauthorize portions of the inner harbor channel, anchorage and settling basin, realign the inner access channel, redesignate portions of the inner channel and settling basin as part of the 6-foot anchorage, and relocated settling basin to outer harbor.	Section 365(a)(9) & (c), P.L. 106-53.
	POINT BEACH, MILFORD, CT (See Section 26 of Text.)	
October 23, 1962	Project involves raising the first floor of 58 shorefront and back shore residential structures above the estimated 100 year flood elevation.	Section 103, P.L. 87-874. Authorized by the Chief of Engineers November 6, 1995.
	WOODMONT BEACH, MILFORD, CT (See Section 27 of Text.)	
September 3, 1954	Widening to 100-foot width by direct placement of sand, 500 feet of shore west of Mervin Point; widening 3,500 feet of shore from Chapel Street; and construction of 5 impermeable groins.	H. Doc. 203, 83rd Cong., 1st sess.
October 23, 1962	Placement of suitable sandfill along approximately 1,500 feet of beach and reconstruction of groins. Mitigation to replace rocky habitat for blue mussels.	Section 103, P.L. 87-874. Authorized by the Chief of Engineers March 20, 1992.
	ALLENDALE DAM, NORTH PROVIDENCE, RI (See Section 30 of Text.)	
October 31, 1992	Reconstruct dam.	Section 358, P.L. 102-580.
October 12, 1996	Increases total project cost.	Section 347, P.L. 104-303.
	AROOSTOOK RIVER, FORT FAIRFIELD, ME (See Section 31 of Text.)	
June 30, 1948, as amended	Construct 2,800 linear feet of earth dike and concrete floodwall along the side of the Aroostook River.	Section 205, P.L. 80-858. Authorized by the Chief of Engineers May 7, 1999.
	FAULKNER ISLAND, CT (See Section 35 of Text.)	
October 12, 1996	Construct 2,000 linear feet of stone revetment running along the entire east side of the Island and wrapping around the north and south ends.	Section 527, P.L. 104-303
	FOX POINT BARRIER, RI (See Section 36 of Text.)	
July 3, 1958	Construction of concrete hurricane barrier across Providence River at Fox Point in the City of Providence.	H. Doc. 230, 85th Cong., 1st Sess.
August 17, 1999	Directs Secretary to undertake repairs of the barrier as identified in Condition Survey and Technical Assessment dated April 1998, with Supplemental dated August 1998.	Section 352, P.L. 106-53
	HOOSIC RIVER, SYNDICATE ROAD, WILLIAMSTOWN, MA (See Section 37C of Text.)	
July 24, 1946, as amended	Construct 300 linear feet of stone slope protection along the western bank of the Hoosic River adjacent to Syndicate Road.	Section 14, P.L. 79-526. Authorized by the Chief of Engineers July 10, 2001

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	NORTH NASHUA RIVER, LANCASTER, MA (See Section 38E of Text.)	
July 24, 1946, as amended	Construct 500 linear feet of stone slope protection along the streambank of the North Nashua River adjacent to Massachusetts Highway Route 70.	Section 14, P.L. 79-526. Authorized by the Chief of Engineers May 21, 1999
	QUONSET POINT, DAVISVILLE, RI (See Section 40 of Text.)	
October 31, 1992	Construction of two elevated water storage towers and extension, rehabilitation and relocation of 6,000 feet of sewer line.	Section 362, P.L. 102-580.
	ROUGHANS POINT, REVERE, MA (See Section 41 of Text.)	
November 17, 1986	Stabilize existing facilities along the shore with a 4,080-foot long armor stone revetment. Construct earth berm one-foot high and 200 feet long on existing median strip between Bennington Street and State Road.	Section 401, P.L. 99-662.
	SAINT JOHN RIVER BASIN, ME (See Section 42 of Text.)	
November 17, 1986	Ten-year research and demonstration program of cropland irrigation and soil conservation techniques for increasing potato yield and quality.	Section 1108, P.L. 99-662.
	TOWN BROOK, QUINCY AND BRAINTREE, MA (See Section 45 of Text.)	
November 17, 1986	Construct 12-foot diameter, 4,060-foot long, concrete lined tunnel in bedrock approximately 140 to 180 feet below ground; channel improvements downstream of the tunnel outlet; and reconstruction of Old Quincy Reservoir Dam located at the headwaters of Town Brook.	H. Doc. 39, 99th Cong., 1st sess.
	LEBANON, NH (See Section 50 of Text.)	
August 17, 1999	Amends Section 219 of the Water Resources Development Act of 1992 to include a combined sewer overflow project in Lebanon, New Hampshire.	Section 502, P.L. 106-53.
	NAUGATUCK RIVER, TORRINGTON, CT (See Section 51 of Text.)	
November 17, 1986	Place approximately 300 boulders in the Naugatuck River to provide enhanced in-stream cover and aquatic habitat diversity.	Section 1135, P. L. 99-662, Authorized by the Chief of Engineers March 30, 2000.
	SAGAMORE MARSH, CAPE COD CANAL, MA (See Section 52 of Text.)	
November 17, 1986	Restoration of 50 acres of salt marsh by installing larger culverts beneath Scussett Beach and Cape Cod Canal Service Roads and excavating channels.	Section 1135, P.L. 99-662. Authorized by the Chief of Engineers September 5, 1996.

[1] A portion has been abandoned pursuant to P.L. 624, December 31, 1970.
[2] Contains latest published maps. See also Annual Report, 1911, p. 1178 (seawalls and Nixes Mate Channel) and Annual Report, 1903, p. 770 (Fort Point Channel.)
[3] Authorized in part by Public Works Administration, Sept. 6, 1933.
[4] Contains latest maps.

TABLE 1-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2001 Construction	Operation and Maintenance	Contributed Funds Expended (Construction)
Andrews River, MA	2000	219,042	918,543	187,500
Apponaug Cove, RI	1964	156,874	57,769	104,583 [7]
Bagaduce River, ME [3,4]	1912	28,000	39	-
Bar Harbor, ME	1932	406,591	2,187	-
Bass Harbor, ME [6]	1965	188,859	38,772	-
Bass Harbor Bar, ME	1920	4,076	20,382	-
Beals Harbor, ME	1959	184,880	159,577	-
Belfast Harbor, ME	1971	61,561	311,757	-
Bellamy River, NH [3,4]	1897	34,643	-	-
Beverly Harbor, MA	1951	246,048	49,727	100,000
Black Rock Harbor, CT	1988	-	1,672,493	-
Branford Harbor, CT	1990	9,537	1,959,007	-
Bristol Harbor, Bristol, RI [2]	1987	316,288	-	-
Bucks Harbor, Machiasport, ME [6]	1976	277,420	32,192	-
Bucksport Harbor, ME	1907	18,421	22,133	-
Bullocks Point Cover, RI	1996	170,902	410,730	123,757
Bunker Harbor, ME [6]	1969	95,372	32,906	-
Buttermilk Bay Channel, MA [6]	1985	163,855	235,138	69,323
Camden Harbor, ME	1960	102,400	250,189	-
Canapitsit Channel, MA [4]	1899	9,113	12,279	-
Cape Porpoise Harbor, ME	1977	175,037	361,664	20,000
Carvers Harbor, Vinalhaven, ME	1964	190,438	39,427	-
Cathance River, ME [3]	1884	21,000	-	-
Chatham (Stage) Harbor, MA	2000	266,705	4,552,065	43,500
Clinton Harbor, CT	2000	104,957	1,336,489	-
Coasters Island Harbor, RI [4]	1911	5,500	13,161	-
Cobscook Bay, ME [3,4]	1866	4,173	-	-
Cohassett Harbor, MA	2000	267,737	1,844,079 [31]	43,500
Connecticut River below Hartford, CT	1996	1,550,185 [24]	18,112,052	130,410
Corea Harbor, Gouldsboro, ME [6]	1984	797,954	100,469	-
Criehaven Harbor, ME	1997	40,776	517,617	-
Cross Rip Shoals Nantucket Sound, MA	1954	24,200	54,328	-
Cuttyhunk Harbor, MA	2000	27,168	1,665,415 [32]	11,643
Damariscotta River, ME [4]	1906	5,000	905	-
Deer Island Thoroughfare, ME [4]	1916	40,000	5,792	-
Dorchester Bay and Neponset River, MA	1968	94,584	407,424	-
Duck Island Harbor, CT	1953	482,166	412,764	-
Duxbury Harbor, MA	1997	421,297	2,430,540 [27]	35,000 [26]
Edgartown Harbor, MA	1978	65,614	62,980	10,000
Essex River, MA	1948	21,759	167,281 [8]	-
Exeter River, NH [4]	1913	62,454	3,032	-
Fall River Harbor, MA [1]	1984	6,164,757 [9]	2,180,867	-
Falmouth Harbor, MA	1978	123,763	338,049	35,000
Fivemile River Harbor, CT	2000	35,490	1,236,246	-
Frenchboro Harbor, ME	1978	657,345	24,616	-
Georges River, ME	1978	25,788	312,414	-
Gloucester Harbor and Annisquam River, MA	2000	1,296,934	1,784,043	25,000
Greenwich Bay, RI	1893	2,000	3,719	-
Greenwich Harbor, CT	1969	198,758	226,272	100,000
Guilford Harbor, CT	1995	137,222	1,937,167	25,500
Hampton Harbor, NH	1996	200,000	2,281,107	193,761
Harbor of Refuge, Block Island, RI	2000	576,856	3,482,253	-

TABLE 1-C (Continued) OTHER AUTHORIZED NAVIGATION PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2001		
		Construction	Operation and Maintenance	Contributed Funds Expended (Construction)
Harraseeket River, ME [4]	1896	30,963	30,069	-
Hay (West Harbor), Fisher's Island, NY	1931	8,401	38,462	-
Hendrick's Harbor, ME	1957	28,204	23,025	-
Hingham Harbor, MA	1954	28,316	176,820	-
Housatonic River, CT	1983	859,691	2,643,928	222,010
Ipswich River, MA	1969	5,618	76,634	-
Island End River, Chelsea, MA [6]	1983	311,850	10,918	192,336 [10]
Isle Au Haut Thoroughfare, ME	1980	137,653	196,686	-
Isle of Shoals Harbor, ME and NH	1977	80,691	651,644	-
Jonesport Harbor, ME	1992	7,489,073	47,328	832,119
Josias River, ME [5]	1995	621,186	444,702	79,668 [22]
Kennebunk River, ME	2000	261,417	1,510,733	88,917
Kingston Harbor (North Plymouth), MA	1895	8,940	-	-
Lagoon Pond, Martha's Vineyard, MA [6]	1976	99,098	37,386	80,990
Lamprey River, NH [4]	1913	19,980	67,123	-
Little Harbor, Woods Hole, MA [4]	1906	18,000	19,673	-
Lubec Channel, ME	1956	380,322	33,389	-
Machias River, ME	1972	32,000	260,367	-
Malden River, MA [19]	1922	104,853	45,097	62,000
Matinicus Harbor, ME	1962	14,000 [11]	8,989	-
Medomak River, ME	1953	17,000	92,359	-
Menemsha Creek, MA	1981	56,926	750,759	12,500
Merrimack River, MA	1940	369,891	739,100	-
Mianus River, CT	1985	132,435	726,012	46,500
Milford Harbor, CT [5]	1989	90,506	1,412,502	11,380 [12]
Moosabec Bar, ME	1930	11,400	25,327	-
Mystic River, CT	1957	197,582	211,785	14,000
Mystic River, MA	1986	3,222,777	2,021,778	-
Nantucket (Harbor of Refuge), MA	1989	502,661 [13]	759,000	-
Narragansett Town Beach, RI [21]	-	27,398	-	-
Narraguagus River, ME	1969	821,144	231,079	-
New Harbor, ME [5]	1966	118,620	42,891	7,015 [14]
New Haven Breakwater, CT	1950	1,242,246	40,273	-
New Haven Harbor, CT [1]	1995	4,773,246	17,374,732	-
New London Harbor, CT	1986	638,774	1,996,200	-
Newburyport Harbor, MA	1999	565,224 [30]	6,873,160	80,357
Newport Harbor, RI	1953	733,524	172,678	-
Niantic Bay and Harbor, CT [6]	1972	66,464	154,703	65,139
Northeast Harbor, ME	1954	138,942	57,247	-
Norwalk Harbor, CT	1983	531,129	4,092,427	34,500
Owl's Head Harbor, ME [3,5]	1968	124,158	52,924	4,383
Patchogue River, CT	1998	355,445	1,368,989	-
Pawcatuck River, Little Narragansett Bay and Watch Hill Cove, RI and CT	1997	318,787	1,515,960	20,000
Pawtuxet Cove, RI	1975	295,356	248,146	295,356
Penobscot River, ME	1985	501,020	1,218,575	-
Pepperell Cove, ME	1969	171,351	53,156	-
Pig Island Gut, ME [6]	1966	191,753	94,656	-
Pleasant River, ME	1892	3,500	217	-
Point Judith Pond and Harbor of Refuge, RI	1996	2,714,510 [25]	8,170,834	17,587
Pollock Rip Shoals, Nantucket Sound, MA	1956	1,083,504	846,590	-

TABLE 1-C (Continued) OTHER AUTHORIZED NAVIGATION PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2001		
		Construction	Operation and Maintenance	Contributed Funds Expended (Construction)
Potowomut River, RI	1882	5,000	50	-
Provincetown Harbor, MA [5]	1997	3,889,577	1,053,966	797,847
Richmond Harbor, ME [4]	1883	20,000	-	-
Richmond's Island Harbor, ME [4]	1882	119,844	1,808	-
Rockland Harbor, ME	1976	1,948,462	575,478	-
Rockport Harbor, MA	1996	1,808,745	319,278	51,430
Rockport Harbor, ME [3]	1989	32,000	276,766	-
Royal River, ME [5]	1997	336,704	1,777,1555 [28]	49,562 [29]
Rye Harbor, NH	1991	130,342	721,018	61,338 [16]
Saco River, ME [5]	1995	1,064,983	2,931,655	74,996
St. Croix River, ME	1950	179,550	64,685	19,892
Sakonnet River, RI	1909	38,427	13,578	-
Sandy Bay (Harbor of Refuge), Cape Ann, MA [17]	1922	1,925,553	16,060	-
Sasanoa River, ME [3,4]	1915	35,000	124	-
Scarboro River, ME	1997	392,635	2,814,488	10,000
Searsport Harbor, ME	1966	572,568 [15]	83,770	-
Seekonk River, RI	1954	672,214	905,273	67,792
South Bristol Harbor, ME	1971	89,593	74,123	2,567
Southport Harbor, CT	1962	59,213 [18]	454,635	18,285
Southwest Harbor, ME	1962	180,042	90,085	7,501
Stamford Harbor, CT	1980	892,824	1,870,647	169,636
Stockton Harbor, ME [3,4]	1915	33,000	34,376	-
Stonington Harbor, CT	1959	377,328	157,273	-
Stonington Harbor, ME [6]	1985	898,500	33,258	-
Stony Creek, Branford, CT [6]	1995	112,487	823,697	85,176
Sullivan Falls Harbor, ME	1914	19,871	-	-
Taunton River, MA	1948	442,895	100,917	-
Tenants Harbor, ME	1920	18,750	20,854	-
Thames River, CT	1967	1,471,919	1,709,740	-
Vineyard Haven, MA	1943	27,186	26,806	-
Wareham Harbor, MA	1896	95,997	42,891	-
Warren River, RI	1890	5,000	1,300	-
Warwick Cove, RI [6]	1975	155,430	121,649	133,985 [20]
Wellfleet Harbor, MA	1995	157,634	1,858,413	32,000
Westcott Cove, CT	1978	55,960	361,748	21,000
Westport Harbor and Saugatuck River, CT	1972	19,308	252,844	-
Westport River, MA	1942	3,000	-	-
Weymouth Back River, MA	1944	48,740	27,353	20,000
Weymouth-Fore & Town River, MA [5]	1979 and 1983	30,194,613	1,805,221	630,133
Wickford Harbor, RI [5]	1973	233,410	207,850	49,094 [23]
Wilson Point Harbor, CT [4]	1895	54,177	-	-
Winnipesaukee Lake, NH	1952	7,500	29,870	-
Winter Harbor, ME [6]	1976	162,937	37,038	-
Winthrop Harbor, MA	1895	8,992	39,315	-
Wood Island Harbor and the Pool at Biddeford, ME [5]	1995	733,272	636,195	43,660
Woods Hole Channel, MA	1940	230,000	55,614	-
York Harbor, ME	1997	239,654	1,116,848	32,161

TABLE 1-C (Continued) OTHER AUTHORIZED NAVIGATION PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2001		
		Construction	Operation and Maintenance	Contributed Funds Expended (Construction)

Projects are complete unless otherwise noted.

[1] Complete except for inactive portion.
[2] Inactive.
[3] Abandonment recommended in H. Doc. 467, 69th Congress, 1st session.
[4] No commerce reported.
[5] Portion or project authorized by Chief of Engineers (Public Law 86-645, Sec. 107).
[6] Authorized by the Chief of Engineers (Public Law 86-645, Sec. 107).
[7] Construction of a public landing by local interests has not been completed.
[8] Excludes $5,000 Contributed Funds.
[9] Excludes $37,200 Contributed Funds, Other.
[10] Excludes $582,188 Contributed Funds, Other.
[11] Excludes $114,327 expended for rehabilitation; breakwater repaired in 1962.
[12] Excludes $173,425 Contributed Funds, Other.
[13] Excludes $211,649 expended for minor rehabilitation; jetty repaired in 1963.
[14] Public landing at Black Cove has not been constructed.
[15] Costs to local interests for berth improvements are estimated to be $60,000.
[16] Excludes $81,548 Contributed Funds, Other.
[17] Abandonment recommended in H. Doc. 411, 64th Congress, 1st session, and in River and Harbor Committee Doc. 3, 65th Congress, 1st session.
[18] Excludes $37,714 Emergency Relief Funds.
[19] Under State maintenance.
[20] Excludes $10,000 Contributed Funds, Other.
[21] Lack of local sponsor. (Project authorized by Section 361 of WRDA 1992.)
[22] Excludes $17,495 non-project cost for removal of mooring chains, of which the project sponsor still owes $12,198.
[23] Excludes $10,000 Contributed Funds.
[24] Excludes $60,000 expended for major rehabilitation.
[25] Excludes $1,926,000 expended for rehabilitation.
[26] Excludes $65,000 consisting of $13,000 for public wharf and $52,000 for additional construction.
[27] Excludes $571,401Contributed Funds.
[28] Excludes $20,000 Contributed Funds, Other.
[29] Excludes $18,000 Contributed Funds, Other.
[30] Excludes $1,415,524 expended for major rehabilitation.
[31] Excludes $83,476 Contributed Funds, Other.
[32] Excludes $50,000 Contributed Funds.

TABLE 1-D OTHER AUTHORIZED BEACH EROSION CONTROL PROJECTS

Project	For Last Full Report See Annual Report For	Cost to Sep. 30, 2001 Construction	Amount Expended by Local Interest
Burial Hill Beach, Westport, CT	1958	5,810	11,612
Calf Pasture Beach Park, Norwalk, CT	1964	56,386	120,179
Clark Point Beach, New Bedford, MA [5]	1982	228,081	228,080
Cliff Walk, Newport, RI [1]	1995	1,155,491	955,237
Compo Beach, Westport, CT	1962	84,544	169,089
Cove Island, Stamford, CT	1961	47,131	94,262
Cummings Park, Stamford, CT	1963	26,886	53,771
Guilford Point Beach (Jacobs Beach), Guilford, CT	1961	15,620	31,241
Gulf Beach, Milford, CT	1958	21,303	42,606
Hammonasset Beach, Madison, CT	1956	163,183	326,366
Hampton Beach, Hampton, NH	1966	260,868	385,641
Jennings Beach, Fairfield, CT	1956	14,401	28,802
Lighthouse Point Park (Area 9), CT	1961	3,930	7,859
Middle Beach, CT	1958	8,810	17,620
Misquamicut Beach, Westerly, RI [2]	1963	14,512	29,024
North Scituate Beach, Scituate, MA	1969	106,552	106,552
Oak Bluffs Town Beach, Martha's Vineyard, MA [5]	1976	273,334	198,583
Oakland Beach, Warwick, RI	1982	559,200	181,175
Plum Island, MA [5]	1977	118,882	104,875
Prospect Beach, West Haven, CT [4]	1995	1,870,407	1,089,351
Quincy Shore Beach, Quincy, MA	1962	621,464	1,242,880
Revere Beach, MA	1994	3,889,016	2,197,312
Roosevelt Campobello International Park, Lubec, ME	1993	233,260	-
Sand Hill Cove Beach, RI	1959	40,143	82,000
Sandy Point Outfall, West Haven, CT [5]	1996	889,634	457,495
Sasco Hill Beach, Fairfield, CT	1961	23,759	47,518
Sea Bluff Beach, West Haven, CT [5]	1995	677,170	237,628
Seaside Park, CT	1958	150,000	329,921
Sherwood Island State Park, Westport, CT [4]	1983	1,186,830	889,330
Short Beach, CT [3]	1956	-	-
Silver Beach to Cedar Beach, CT	1964	62,560	270,695
Southeast Lighthouse, Block Island, RI	1995	1,648,249	970,000
Southport Beach, CT	1960	17,631	35,263
Town Beach, Plymouth, MA	1964	5,490	10,981
Wallis Sands State Beach, Rye, NH	1966	65,131	435,942
Wessagusset Beach, Weymouth, MA	1971	180,944	200,208
Winthrop Beach, MA	1960	176,567	353,134

Projects are completed unless otherwise noted.

[1] Complete except inactive portion.

[2] Additional Federal participation will be required based on Public Law 87-874, Sec. 103.

[3] Project completed at no cost to Federal Government by using fill from Federal navigation improvement at Housatonic River. (See page 88 of the 1956 Annual Report.)

[4] Portion authorized by Chief of Engineers (Public Law 87-874, Sec. 103.)

[5] Authorized by Chief of Engineers (Public Law 87-874, Sec. 103.)

TABLE 1-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2001 Construction	Cost to September 30, 2001 Contributed Funds
Alford, Green River, MA [3]	1977	41,419	-
Alley Bay, Beals, ME [3]	1979	190,500	-
Amesbury, Powwow River, MA [3]	1978	132,113	-
Ansonia - Derby, CT	1977	18,266,040	- [8]
Bagaduce River, ME [3]	1985	129,500	-
Beaver Brook, Keene, NH [2]	1989	2,591,000	-
Blackstone River, Millbury, MA [3]	1986	249,999	4,576
Bluffs Community Center, Swansea, MA [3]	1995	189,131	54,447
Bound Brook, Scituate, MA [4]	1974	47,300	-
Canton, MA [2]	1964	156,568	92,981
Charles River Dam, MA	1981	41,170,921	5,554,088 [9]
Charlestown, NH [3]	1976	113,330	-
Cherryfield, ME [2]	1963	191,095	-
Chicopee, MA	1954	1,433,600	385
Chicopee Falls, MA	1978	2,183,912	411,292 [10]
Clear River, Burrillville, RI [3]	1987	168,000	-
Cocheco River, Farmington, NH [2]	1963	183,100	-
Connecticut River, Middletown, CT [3]	1996	262,046	69,121 [23]
Connecticut River, North Stratford, NH [3]	1982	180,000	-
Connecticut River, W. Stewartstown, NH [3]	1976	54,703	-
Covered Bridge, Sheffield, MA [3]	1988	250,000	180,000
Danbury, CT	1978	13,143,000	- [11]
Derby, CT	1977	7,582,642	- [12]
East Branch Dam, CT	1973	1,959,836	-
East Hartford, CT	1951	2,135,447	7,637
Farmington River, Simsbury, CT [3]	1996	500,000	257,720 [22]
Fitchburg, MA (See No. Nashua River)	-	-	-
Folly Brook, Wethersfield, CT [2]	1979	220,284	-
Fort Kent, ME [2]	1979	1,997,820	-
Gardner, MA [2]	1970	495,691	15,000
Gulf Street, Milford, CT [3]	1991	365,000	21,000
Hall Meadow Brook Dam, CT	1970	2,572,357	-
Hartford, CT	1960	6,929,100	2,781,100
Hartford, White River, VT [2]	1973	332,236	-
Haverhill, MA	1940	1,743,485	120,000
Hayward Creek, Braintree-Quincy, MA [2]	1979	2,325,470	-
Holmes Bay, Whiting, ME [3]	1980	207,390	-
Holyoke, MA	1953	3,418,000	24,447
Housatonic River, Pittsfield, MA [2]	1985	739,003	-
Housatonic River, Salisbury, CT [3]	1982	102,800	-
Housatonic River, Sheffield, MA [3]	1981	202,608	-
Huntington, MA [3]	1960	3,900	-
Island Avenue, Quincy, MA [3]	1983	172,000	-
Islesboro (The Narrows), ME [3]	1985	165,500	-
Johnson Bay, Lubec, ME [3]	1985	163,082	-
Keene, NH [4]	1955	44,100	-
Lancaster, Israel River, NH [2]	1997	595,878	-
Lee, Housatonic River, MA [3]	1976	37,852	-
Little River, Belfast, ME [3]	1990	166,682	43,000
Lowell, MA	1945	1,284,974	-
Lower Woonsocket, RI	1977	6,600,681	1,266,638 [14]

TABLE 1-E (Continued) OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2001 Construction	Cost to September 30, 2001 Contributed Funds
Machias River, Machias, ME [3]	1987	152,000	-
Machias Bay, Machiasport, ME [3]	1995	133,473	32,733 [15]
Mad River Lake, CT	1973	4,773,020	-
Mad River, Waterbury (Woodtick Area), CT	1998	1,177,905	270,183 [13]
Marginal Way, Ogunquit, ME [3]	1987	243,000	-
Merriconeag Sound, Harpswell, ME [3]	1980	107,682	-
Mill Brook, Brownsville, VT [3]	1988	110,000	-
Narraguagus River, Milbridge, ME [3]	1995	132,967	24,893 [16]
Nashua, NH	1950	270,000 [6]	327
New London Hurricane Barrier, CT	1992	8,504,919 [7]	2,015,709 [21]
Nonewaug River, Woodbury, CT [3]	1985	222,500	-
Northampton, MA	1950	960,000	-
North Canaan, Blackberry River, CT [4]	1977	73,865	-
North Nashua River, Fitchburg, MA	1981	4,605,000	-
North Nashua River, Lancaster, MA [3]	1979	81,671	-
North Nashua River, Leominster, MA [3]	1997	152,756	50,919
North Nashua River, Leominster (Sewer Line), MA [3]	1997	221,455	73,818
Norwalk, CT [2]	1952	52,150	-
Norwich, CT	1960	1,209,000	-
Park River, Hartford, CT	1986	60,176,919	- [17]
Pawcatuck, CT	1966	644,311	214,106
Pawtuxet River, Warwick, RI [2]	1986	3,174,260	-
Penobscot River, Old Town, ME [2]	1986	178,045	-
Perley Brook, Fort Kent, ME [3]	1994	70,990	20,554 [18]
Pleasant Point, Perry, ME [3]	1987	189,000	-
Point Shirley, Winthrop, MA [3]	1995	500,000	182,419
Port 5 Facility, Bridgeport, CT [3]	1986	227,500	-
Prestile Stream, Blaine, ME [3]	1980	73,674	-
Riverdale, West Springfield, MA [5]	1996	1,905,261	221,614 [24]
Salmon River, Colchester, CT [3]	1983	247,100	-
Sand Cove, Gouldsboro, ME [3]	1984	127,500	-
Saugus River & Tributaries, MA [1]	1997	5,525,000	-
Saxonville, MA	1980	4,218,700	- [19]
Sebago Lake, Standish, ME	1998	500,000	346,009
Sebasticook River, Hartland, ME [2]	1985	1,857,475	-
Shelburne, Androscoggin River, NH [3]	1977	37,657	-
Smelt Brook, Weymouth-Braintree, MA [2]	1978	1,803,738	-
South River, Conway, MA [3]	1987	133,500	-
Springdale, MA	1952	700,000	-
Springfield, MA	1950	932,000	5,350
Squantz Pond, New Fairfield, CT [3]	1983	116,296	-
Stony Brook, Wilton, NH [4]	1973	19,500	-
Sucker Brook Dam, CT	1976	2,227,792	58,800
Three Rivers, MA	1970	1,577,189	- [20]
Torrington, East Branch, CT [2]	1963	389,237	-
Torrington, West Branch, CT [2]	1963	228,237	-
Town River Bay, Quincy, MA [3]	1993	55,228	18,409
Village of Saxtons, VT [3]	1985	140,500	-
Ware, MA [2]	1963	400,000	-
Waterbury-Watertown, CT [2]	1963	265,300	-
Weston, VT [4]	1957	13,000	-
West Branch, Westfield River, Huntington, MA [3]	1983	119,433	-

TABLE 1-E (Continued) OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2001 Construction	Cost to September 30, 2001 Contributed Funds
West River, New Haven, CT [2]	1996	3,883,293	748,840 [25]
West Springfield, MA [5]	1992	2,043,728	14,343
West Warren, MA [2]	1964	389,200	41,000
Winsted, CT	1954	245,500	-
Woonsocket, RI	1962	4,033,100	224,476
Worcester Diversion, MA	1978	5,086,896	70,161

Projects are complete unless otherwise noted.

[1] Inactive.
[2] Authorized by Chief of Engineers (Public Law 80-858, Sec. 205).
[3] Authorized by Chief of Engineers (Public Law 79-526, Sec. 14)
[4] Authorized by Chief of Engineers (Public Law 83-780, Sec. 208)
[5] Portion Authorized by Chief of Engineers (Public Law 80-858, Sec. 205).
[6] Excludes $147,366 Flood Control and Coastal Emergency funds expended.
[7] Excludes $852,127 non-project cost per 1976 WRDA.
[8] Excludes $727,460 Contributed Funds, Other.
[9] Excludes $1,674,567 Contributed Funds, Other.
[10] Excludes $12,000 expended for land condemnations and $25,184 Contributed Funds, Other for relocations.
[11] Excludes $1,146,828 Contributed Funds, Other.
[12] Excludes $406,653 Contributed Funds, Other.
[13] Excludes $122,452 for lands.
[14] Excludes $488,920 Contributed Funds, Other.
[15] Excludes $11,758 for lands.
[16] Excludes $6,120 for lands.
[17] Excludes $259,408 Contributed Funds, Other.
[18] Excludes $3,109 for lands.
[19] Excludes $8,503 Contributed Funds, Other.
[20] Excludes $565,168 Contributed Funds, Other.
[21] Excludes $1,629,256 for lands and $303,251 Contributed Funds, Other.
[22] Excludes $10,195 lands.
[23] Excludes $24,134 Contributed Funds, Other.
[24] Excludes $109,140 for land and $46,929 Contributed Funds, Other.
[25] Excludes $554,638 for lands and $71,650 Contributed Funds, Other.

TABLE 1-F OTHER AUTHORIZED MULTI-PURPOSE PROJECTS INCLUDING POWER

Project	For Last Full Report See Annual Report for	Cost to September 30, 2001 Construction	Cost to September 30, 2001 Contributed Funds
Passamaquoddy Tidal Power Project, ME [1]	1935	6,384,394	-

[1] Work discontinued in 1937. Facilities transferred to War Assets Administration.

TABLE 1-G OTHER AUTHORIZED ENVIRONMENTAL PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2001 Construction	Cost to September 30, 2001 Contributed Funds
Galilee Salt Marsh, RI [1]	2000	1,274,979	424,993 [2]

[1] Authorized by Chief of Engineers (Public Law 99-662, Sec. 1135).
[2] Excludes $836,381 Contributed Funds, Other.

TABLE 1-H DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report for	Date Deauthorized	Funds Expended Federal	Funds Expended Contributed Funds
Alternative for Sugar Hill Reservoir	-	Aug 1977	-	-
Andover Lake, CT	-	Aug 1977	-	-
Apponaug Cove, RI (portion of 1960 Act)	1964	Aug 1999	-	-
Bagaduce River, ME (uncompleted portion)	-	Oct 1978	-	-
Baker Brook, MA	1972	Nov 1979	94,000	-
Bar Harbor, ME (uncompleted portion of 1888 & 1890 Acts)	1932	Nov 1986	-	-
Bass Harbor, ME (portions of Section 107 project)	1965	Aug 1999	-	-
Beards Brook Reservoir, NH	1949	Aug 1977	78,000	-
Beaver Brook Lake, NH	1973	Apr 1978	378,300	-
Bennington Reservoir, NH	1949	Aug 1977	205,000	-
Big River Reservoir, RI (portion of 1986 Act)	1987	Nov 1990	-	-
Black Rock Harbor, CT (uncompleted portion of 1958 Act)	1988	Nov 1986	-	-
Boothbay Harbor, ME (Portion of 1912 Act)	1953	Oct 1992	-	-
Boothbay Harbor, ME	1953	Aug 1999	18,000	-
Boston Harbor, MA (1945 Act)	2001	Jan 1990	-	-
Boston Harbor, MA (portion of 1902 Act)	2001	Oct 1992	-	-
Boston Harbor, MA (portion of Chelsea River 1962 Act)	2001	Oct 1996	-	-
Boston Harbor, MA (portion of Reserved Channel 1990 Act)	2001	Oct 1996	-	-
Brant Rock Beach, Marshfield, MA	1961	Nov 1979	-	-
Branford Harbor, CT (portion of 1902 of Act)	1990	Oct 1990	-	-
Bridgeport Harbor, CT (portions of 1958 Act)	2001	Nov 1986	-	-
Bridgeport Harbor, CT (uncompleted portion of 1930 Act)	2001	Nov 1979	-	-
Bridgeport Harbor, CT (portion of 1946 Act)	2001	Oct 1996	-	-
Bridgeport Harbor, CT (portion of 1958 Act)	2001	Oct 1996	-	-
Bridgeport Harbor, CT (portion of 1958 Act)	2001	Aug 1999		-
Brockway Lake, VT	1946	Aug 1977	-	-
Bucksport Harbor, ME (portion of 1902 Act)	1907	Aug 1999	-	-
Cambridgeport Lake, VT	-	Aug1977	-	-
Carvers Harbor, Vinalhaven, ME (portion of 1896 Act)	1964	Aug 1999	-	-
Chicopee, MA (uncompleted portion)	1954	Aug 1977	-	-
Claremont Lake, NH	1968	Dec 1970	242,700	-
Clinton Harbor, CT (portion of 1945 Act)	1985	Aug 1999	-	-
Clyde, RI	1948	Apr 1951	8,800	-
Cocheco River, NH (portion of 1890 Act)	2001	Oct 1996	-	-
Cohasset Harbor, MA (portion of 1945 Act)	2000	Oct 1996	-	-
Cohasset Harbor, MA (portion of Section 107 project)	2000	Oct 1996	-	-
Connecticut River (above Hartford), CT	1932	Jan 1990	132,146	-
Connecticut River below Hartford, CT (uncompleted portion)	1996	Oct 1978	-	-
Connecticut River below Hartford, CT (1950 Act)	1996	Nov 1986	-	-
Cotuit Harbor, MA	1962	Oct 1978	8,541	-
Dickey - Lincoln School Lakes, ME (portion of 1965 Act)	1984	Nov 1986	26,285,298	-
Dorchester Bay and Neponset River, MA (uncompleted portion)	1968	Jan 1990	-	-
East Boothbay Harbor, ME (portion of 1910 Act)	1953	Oct 1996	-	-
East Boothbay Harbor, ME	1953	Aug 1999	6,500	-
Eastport Harbor, ME	1984	Nov 1983	638,675	141,530
Edgartown Harbor, MA (uncompleted portion of 1965 Act)	1978	Nov 1986	-	-
Fall River Harbor, MA (uncompleted portion of 1930 Act)	1984	Nov 1986	-	-
Falmouth Harbor, MA (portion of 1948 Act)	1978	Oct 1996	-	-
Falmouth Harbor, MA (portion of 1948 Act)	1978	Aug 1999	-	-
Fivemile River Harbor, CT (uncompleted portion)	2000	Oct 1978	-	-
Gaysville Lake, VT	1970	Oct 1976	206,600	-

TABLE 1-H (Continued) DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report for	Date Deauthorized	Funds Expended: Federal	Funds Expended: Contributed Funds
Gorton's Pond, Warwick, RI	-	Nov 1991	-	-
Great Salt Pond, Block Island, RI (uncompleted portion of 1945 Act)	2001	Nov 1986	-	-
Greenwich Harbor, CT (portion of 1919 Act)	-	Nov 1990	-	-
Greenwich Point Beach, CT	1969	Oct 1978	-	-
Green Harbor, MA (portion of Sec 107 project)	2001	Aug 1999	-	-
Guilford Harbor, CT (portion of 1945 Act)	1995	Oct 1996	-	-
Harbor of Refuge, Block Island, RI (uncompleted portion of 1912 Act)	2000	Nov 1986	-	-
Housatonic River, CT (uncompleted portion of 1888 Act)	1983	Nov 1979	-	-
Honey Hill Lake, NH	1949	Aug 1977	92,000	-
Ipswich River, MA (uncompleted portion of 1968 Act)	1969	Nov 1986	-	-
Kennebec River, ME (uncompleted portion of 1902 Act)	2001	Nov 1986	-	-
Kennebunk River, ME (portion of 1962 Act)	2000	Oct 1996	-	-
Ludlow Lake, VT	-	Aug 1977	-	-
Lynn Harbor, MA (uncompleted portions of 1954 & 1935 Acts)	2001	Nov 1986	-	-
Lynn-Nahant Beach, MA	1986	Apr 1999	50,000	-
Manchester Harbor, MA	1949	Nov 1979	23,986	-
Marblehead Harbor, MA	1968	Oct 1978	43,711	-
Mattapoisett Harbor, MA	1950	Oct 1978	-	-
Merrimack River, MA	-	Nov 1991	-	-
Mianus River, CT (portion of 1945 Act)	1985	Nov 1986	-	-
Milford Harbor, CT (uncompleted portion of 1902 & 1937 Acts)	1989	Nov 1986	-	-
Monoosnoc Brook, MA	1967	Nov 1986	-	-
Monoosnoc Lake, MA	1967	Nov 1986	-	
Mountain Brook Dam, NH	1949	Aug 1977	57,000	-
Mystic, CT	1968	Aug 1972	67,700	-
Mystic River, CT (uncompleted portion of 1913 Act)	1957	Nov 1986	-	-
Mystic River, CT (portion of 1913 Act)	1957	Oct 1996	-	-
Mystic River, MA (portion of 1950 Act)	1986	Oct 1996	-	-
Nantasket Beach, MA	1971	Jan 1990	-	-
Nantucket Harbor of Refuge, MA (uncompleted portion of 1945 Act)	1989	Nov 1986	-	-
Nantucket Harbor of Refuge, MA (uncompleted portion of 1880 Act)	1989	Jan 1990	-	-
Napatree Beach, RI	-	Nov 1979	-	-
Narragansett Pier, RI	1966	Nov 1970	115,590	-
Neponset River, Milton Town Landing to Port Norfolk, MA	-	Nov 1991	-	-
New Bedford and Fairhaven Harbors, MA (uncompleted portion of 1912 Act)	2001	Nov 1986	-	-
New Bedford and Fairhaven Harbors, MA (portion of 1909 & 1930 Acts)	2001	Aug 1999	-	-
Newburyport Harbor, MA (uncompleted portion of 1945 Act)	1999	Nov 1986	-	-
Newburyport Harbor, MA (portion of 1910 Act)	1999	Oct 1992	-	-
Newport Harbor, RI (portion of 1907 Act)	1953	Nov 1999	-	-
New Haven Harbor, CT (uncompleted portion of 1946 & 1910 Acts)	1995	Nov 1986	-	-
Nookagee Lake, MA	1976	Nov 1986	563,677	-
North Andover and Lawrence, MA	1949	Aug 1977	20,000	-
North Hampton Beach, North Hampton, NH	1963	Nov 1981	-	-
Norwalk Harbor, CT (portion of 1919 Act)	1983	Oct 1996	-	-
Norwalk-Wilton, CT	1973	Nov 1979	-	-
Patchoque River, Westbrook, CT (portion of 1954 Act)	1997	Oct 1996	-	-

TABLE 1-H (Continued) DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report for	Date Deauthorized	Funds Expended: Federal	Funds Expended: Contributed Funds
Pawcatuck River, Little Narragansett Bay, RI and CT (uncompleted portions of 1896 Act)	1997	Nov 1986	-	-
Pawcatuck River, Little Narragansett Bay, RI and CT (1960 Act)	1997	Nov 1979	-	-
Pawtucket, RI	1949	Nov 1977	-	-
Pepperell Cove, ME (uncompleted portion)	1969	Nov 1981	-	-
Phillips Lake, MA	1982	May 1997	300,000	-
Pleasant Bay, MA	1971	Nov 1986	-	-
Point Judith, RI	1968	Nov 1977	198,477	-
Pontiac Diversion, RI	1948	Apr 1951	24,200	-
Providence River and Harbor, RI (uncompleted portion)	2001	Nov 1986	-	-
Provincetown Beach (Herring Cove), MA	1961	Oct 1978	-	-
Provincetown Harbor, MA (uncompleted portion)	1997	Oct 1978	-	-
Rockland Harbor, ME (uncompleted portion of 1956 Act)	1976	Nov 1986	-	-
Saco River, ME (uncompleted portion)	1995	Oct 1979	-	-
Sakonnet Harbor, RI (uncompleted portion)	2001	Jun 1982	176,000	-
Salem Harbor, MA (inactive portion of 1905 Act)	2001	Jul 1995	-	-
Salem Harbor, MA (uncompleted portion of 1945 Act)	2001	Nov 1986	-	-
Sandy Bay, Cape Ann, MA (uncompleted portion)	1922	Oct 1978	-	-
Searsport Harbor, ME (portion of 1962 Act)	1966	Aug 1999	-	-
Silver Beach to Cedar Beach, CT (uncompleted portion of 1954 Act)	1964	Nov 1986	-	-
South Coventry Lake, CT	1951	Aug 1977	96,000	-
Southport Harbor, CT (portion of 1935 Act)	1962	Oct 1996	-	-
South Tunbridge Lake, VT	-	Aug 1977	-	-
Stamford Harbor, CT (2 projects uncompleted portions)	1980	Oct 1978	-	-
Stamford Harbor, CT (inactive portion)	1980	Jan 1990	-	-
Stonington Harbor, CT (uncompleted portion of 1950 Act)	1959	Nov 1986	-	-
Stonington Harbor, ME (1960 Act)	1985	Nov 1979	2,543	-
Stony Creek, CT (portion of 1960 Act)	1995	Oct 1996	-	-
Stratford, CT	1973	Mar 1977	934,500	-
Sugar Hill Reservoir, NH	1946	Dec 1944	-	-
Taunton River, MA (inactive portion)	1948	Jan 1990	-	-
Thames River, CT (uncompleted portion of 1945 Act)	1967	Nov 1986	-	-
The Island Lake, VT	-	Aug 1977	-	-
Thumperton Beach, Eastham, MA	1961	Nov 1979	-	-
Town Beach, Plymouth, MA (inactive portion)	1964	Jan 1990	-	-
Town Neck Beach, Sandwich, MA (portion of 1960 Act)	1961	Nov 1986	-	-
Trumbull Lake, CT	1983	May 1997	1,498,800	-
Victory Lake, VT	1967	Aug 1977	168,400	-
Wareham Harbor, MA (inactive portion)	1896	Jan 1990	-	
Wareham-Marion, MA	1965	Aug 1977	81,715	-
Wells Harbor, ME (portion of 1960 Act)	2001	Aug 1999	-	-
West Brookfield Reservoir, MA	1965	Aug 1977	67,000	-
West Canaan Lake, NH	1948	Aug 1977	92,000	-
Westerly, RI	1966	Nov 1986	-	-
Westfield, MA	1967	Sep 1969	507,200	-
Westport, CT	1965	Feb 1970	29,634	-
Westport Harbor and Saugatuck River, CT (uncompleted portion of 1892 & 1954 Acts)	1972	Nov 1979	-	-
Westport River, MA (1938 Act)	1942	Jan 1990	-	-
Weymouth-Fore and Town Rivers, MA (portion of 1965 Act)	1979 & 1983	Oct 1996	-	-
Whitmanville Lake, MA	1979	Jul 1995	605,023	-

TABLE 1-I NAVIGATION ACTIVITIES PURSUANT TO SECTION 107, PUBLIC LAW 86-645 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Bass Harbor, Tremont, ME	23,712	-
Blackwater River, NH	57,285	-
Coordination	12,214	-
Oaks Bluff Harbor, Martha's Vineyard, MA	2,869	-
Thames Rivers, CT	21,085	-
Westport, MA	37,280	-

TABLE 1-J MITIGATION OF FEDERAL NAVIGATION PROJECTS PURSUANT TO SECTION 111, PUBLIC LAW 90-483 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Camp Ellis, Saco, ME	49,569	-

TABLE 1-K BEACH EROSION ACTIVITIES PURSUANT TO SECTION 103, PUBLIC LAW 87-874 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Morris Cove, New Haven, CT	46,903	-
Nantasket Beach, Hull, MA	19,136	4,955
North Nantasket Beach, Hull, MA	-	1,126

TABLE 1-L FLOOD CONTROL ACTIVITIES PURSUANT TO SECTION 205 PUBLIC LAW 80-858 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expend
Aberjona River, Winchester, MA	28,412	-
Black Rocks Creek, Salisbury, MA	5,750	6,071
Coordination	10,730	-
Ell Pond, Melrose, MA	11,655	-
Farm River, East Haven, CT	53,743	-
Harbor Brook, Meriden, CT	102,836	22,671
Muddy River, Boston & Brookline, MA	3,782	3,211
Pocasset River, Cranston and Johnston, Ri	15,767	-
Salmon River, Haddam & East Haddam, CT	105,929	37,209

TABLE 1-M EMERGENCY BANK PROTECTION ACTIVITIES PURSUANT TO SECTION 14, PUBLIC LAW 79-526 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Coordination	14,187	-
Merrimack River, Riverside Road, Haverhill, MA	58,286	-
White River, Hancock, VT	30,747	-

TABLE 1-N ENVIRONMENTAL IMPROVEMENT ACTIVITIES PURSUANT TO SECTION 1135, PUBLIC LAW 99-662 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Allin's Cove, Barrington, RI	101,242	-
Broad Meadows Marsh Restoration, MA	118,726	-
Boyd's Marsh (Town Pond), RI	64,494	-
Coordination Account	19,075	-
NMLC, Buzzards Bay, MA	9,252	-
Preliminary Restoration Plans	4,264	-

TABLE 1-O AQUATIC ECOSYSTEM RESTORATION ACTIVITIES PURSUANT TO SECTION 206, PUBLIC LAW 99-662 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Coordination	13,723	-
Copperas Brook, VT	486	-
Flint Pond Restoration, Hollis, NH	41,871	-
Lonsdale Drive-in Restoration, RI	48,879	-
Manham Dam, Easthampton, MA	71,001	-
Milford Pond, Milford, MA	9,955	-
Mill Pond, Littleton, MA	9,817	-
Mill River, Stamford, CT	4,952	-
Nashawannuck Pond, Easthampton, MA	9,852	-
Neponset River, Boston, MA	225,976	-
Osgood Pond Restoration, Milford, NH	40,760	-
Parker Pond, MA	9,960	-
Preliminary Restoration Plans	23,232	-
Presumpscot River Aquatic Ecosystem Restoration, ME	57,413	-
Run Pond Coastal Ecosystem Restoration, MA	76,385	-
Scarborough Marsh, Scarborough, ME	4,874	-
Steward's Creek, Barnstable, MA	8,569	-
Wiswall Dam, Durham, NH	27,545	-

TABLE 1-P BLACKSTONE RIVER BASIN, MA AND RI (See Section 36 of Text) RESERVOIR

Name	Nearest City	Miles Above Mouth of Blackstone River	Height (feet)	Type	Reservoir Capacity (acre-feet)	Estimated Federal Cost: Construction	Estimated Federal Cost: Lands and Damages [1]	Estimated Federal Cost: Total
West Hill [2]	Worcester,MA	25.8	51	Earthfill	12,400	$1,366,922	$940,000	$2,306,902

[1] Includes highway, railroad, and utility relocations.
[2] See individual report for details.

LOCAL PROTECTION PROJECTS

Location	Miles Above Mouth of Connecticut River	Type of Structure	Estimated Cost: Construction	Estimated Cost: Lands and Damages [1]	Estimated Cost: Total
Worcester, MA	48	Diversion tunnel and channel	$4,923,500	$1,179,000 [2]	$6,102,500
Woonsocket, RI	15	Channel improvement	3,733,100	1,069,000 [3]	4,802,100
Lower Woonsocket, RI	13	Flood wall, conduits and channel improvement	8,356,239	435,000	8,791,239
Blackstone River, Millbury, MA	32	Slope protection	256,619	-	256,619 [5]
Clear River, Burrillville, RI	23	Retaining wall	168,000	-	168,000
Pawtuxet River, Warwick, RI	-	Land acquisition	4,125,000	-	4,125,000 [4]

[1] Includes relocation.
[2] $158,000 Federal; $1,021,000 non-Federal.
[3] $300,000 Federal; $769,000 non-Federal.
[4] $3,300,000 Federal; $825,000 non-Federal.
[5] $250,000 Federal; $6,619 non-Federal.

TABLE 1-Q CONNECTICUT RIVER BASIN, VT, NH, MA AND CT
(See Section 38 of Text)
DAMS AND RESERVOIRS

Name	Nearest City	Miles Above Mouth of Connecticut River	Height (feet)	Type	Reservoir Capacity (acre-feet)	Estimated Federal Cost: Construction	Estimated Federal Cost: Lands and Damages[1]	Estimated Federal Cost: Total
Vermont:								
Union Village [2]	White River Jct.	228.4	170	Earthfill	38,000	$3,186,860	$ 908,300	$4,095,160
North Hartland [2]	White River Jct.	211.7	185	Earthfill	71,400	6,349,225	963,000	7,312,225
North Springfield [2]	Springfield	191.3	120	Earthfill	50,600	4,781,526	2,050,000	6,831,526
Ball Mountain [2]	Brattleboro	178.2	265	Rockfill-earth	54,600	10,757,842	350,000	11,107,842
Townshend [2]	Brattleboro	168.3	133	Earthfill	33,200	6,662,545	1,878,000	8,540,545
New Hampshire:								
Surry Mountain [2]	Keene	174.4	86	Earthfill	32,500	2,448,610	385,000	2,833,610
Otter Brook [2]	Keene	171.2	133	Earthfill	18,300	2,982,048	1,378,400	4,360,448
Massachusetts:								
Birch Hill [2]	Gardner	153.3	56	Earthfill	49,900	1,740,679	3,075,000	4,815,679
Tully [2]	Athol	148.7	62	Earthfill	22,000	1,298,752	368,000	1,666,752
Barre Falls [2]	Worcester	130.2	62	Rockfill-earth	24,000	1,928,819	39,000	1,967,819
Knightville [2]	Northampton	102.8	160	Earthfill	49,000	2,594,440	821,200	3,415,640
Littleville [2]	Northampton	102.0	150	Earthfill	32,400	5,863,412	1,150,000	7,013,412
Conant Brook [2]	Springfield	122.0	85	Rockfill-earth	3,740	1,935,530	1,015,000	2,950,530
Connecticut:								
Colebrook River [2]	Winsted	116.0	223	Rockfill-earth	98,500	8,341,971	5,922,000	14,263,971
Mad River	Winsted	120.0	178	Earthfill	9,700	4,773,020	2,210,000	[4] 6,983,020
Sucker Brook	Winsted	118.5	68	Earthfill	1,480	2,227,792	180,000	[3] 2,407,792

[1] Includes highway, railroad, and utility relocations.
[2] For details, see individual report.
[3] Non-Federal cost.
[4] Non-Federal $670,000; Federal $1,540,000.

LOCAL PROTECTION PROJECTS

Location	Miles Above Mouth of Connecticut River	Type of Structure	Estimated Cost: Construction	Estimated Cost: Lands and Damages[1]	Estimated Cost: Total
Beaver Brook, Keene, NH	170.4	Channel improvement	$ 2,591,000	-	$ 2,591,000
Charlestown, NH	181	Riverbank protection	113,330	-	113,330
Chicopee, MA	80	Wall and levee	1,434,000	$ 250,000	1,684,000
Chicopee Falls, MA	83	Wall and levee	2,600,000	70,000	2,670,000

TABLE 1-Q (Continued)

CONNECTICUT RIVER BASIN, VT, NH, MA AND CT
(See Section 38 of Text)
DAMS AND RESERVOIRS

LOCAL PROTECTION PROJECTS

Location	Miles Above Mouth of Connecticut River	Type of Structure	Estimated Cost: Construction	Estimated Cost: Lands and Damages[1]	Estimated Cost: Total
Connecticut River, Middletown, CT	31	Streambank protection	331,167 [6]	-	331,167
East Hartford, CT	52	Wall and levee	2,143,084	271,000	2,414,084
Farmington River, Simsbury, CT	60	Streambank protection	757,720	10,195	767,915
Folly Brook, Wethersfield, CT	50	Channel improvement	220,284	-	220,284
Gardner, MA	163	Dam and levee	510,691	35,000	545,691
Gulf Street, Milford, CT	-	Slope protection	386,000	-	386,000
Hartford, CT	52	Wall and levee	9,710,200 [4]	1,150,000	10,860,200
Hartford, White River, VT	216	Channel improvement	332,236	-	332,236
Holyoke, MA	85	Wall and levee	3,442,447	150,000	3,592,447
Huntington, MA	100	Riverbank protection	3,900	-	3,900
Israel R., Lancaster, NH	314	Gabion overflow weir	551,606	-	551,606
Keene, NH	167	Channel improvement	44,146	-	44,146
Mill Brook, Brownsville, VT	200.3	Streambank stabilization	110,000	-	110,000
Northampton, MA	94	Wall and levee	960,000 [5]	150,000	1,110,000
North Stratford, NH	345	Slope protection	180,000	-	180,000
Park River, CT	51	Conduit	58,876,919	1,300,000	60,176,919
Riverdale, MA	80	Wall and levee	2,126,875 [7]	109,140	2,236,015
Salmon R., Colchester, CT	38	Slope protection	247,100	-	247,100
South River, Conway, MA	107	Slope protection	133,500	-	133,500
Springdale, MA	84	Wall and levee	700,000	57,000	757,000
Springfield, MA	76	Wall and levee	937,350 [2]	272,000	1,209,350
Three Rivers, MA	98	Wall and levee	1,577,189	700,000	2,277,189
Ware, MA	110	Channel improvement	400,000	85,000	485,000
Weston, VT	195	Channel improvement	13,079	2,000	15,079
West Springfield, MA	76	Wall and levee	2,043,452 [3]	30,000	2,073,452
West Warren, MA	111	Wall and levee	430,176	64,000	494,176
Winsted, CT	115	Channel improvement	245,500	30,000	275,500

[1] To be borne by local interests. Also includes local interests portion of relocation.
[2] Includes $355,000 Public Works Administration funds.
[3] Includes $245,000 Public Works Administration funds.
[4] Includes $835,000 Public Works Administration funds.
[5] Includes $280,000 Public Works Administration funds.
[6] Excludes $24,134 Contributed Funds, Other.
[7] Excludes $46,929 Contributed Funds, Other.

TABLE 1-R HOUSATONIC RIVER BASIN, CT AND MA (See Section 41 of Text) DAMS AND RESERVOIRS [1]

Name	Nearest City	Miles Above Mouth of Naugatuck River	Height (feet)	Height Type	Reservoir Capacity (acre-feet)	Estimated Federal Cost: Construction	Estimated Federal Cost: Lands and Damages [2]	Estimated Federal Cost: Total
Hall Meadow	Torrington, CT	41.0	73	Rock and earthfill	8,620	$2,572,357	$1,290,000 [3]	$3,862,357
East Branch	Torrington, CT	43.7	92	Earthfill	4,350	1,959,836	1,290,000 [3]	3,249,836
Thomaston	Torrington, CT	30.5	142	Rock and earthfill	42,000	6,382,112	7,900,000	14,282,112
Northfield Brook	Torrington, CT	30.6	118	Earthfill	2,432	1,875,512	975,000	2,850,512
Black Rock	Waterbury, CT	29.0	154	Earthfill	8,700	5,223,700	2,958,600	8,182,300
Hancock Brook	Waterbury, CT	25.0	57	Earthfill	4,030	1,593,911	2,585,000	4,178,911
Hop Brook	Waterbury, CT	15.9	97	Earthfill	6,970	2,701,562	3,450,000	6,151,562

[1] For details of projects, see individual reports.
[2] Includes highway, railroad, and utility relocations.
[3] Includes cost of lands borne by local interests.

LOCAL PROTECTION PROJECTS [1]

Location	Miles Above Mouth of Housatonic River	Type of Structure	Estimated Cost: Construction	Estimated Cost: Lands and Damages [2]	Estimated Cost: Total
Alford, Green River, MA	111.0	Earth dike and stone slope protection	$41,419	-	$ 41,419
Ansonia-Derby, CT	13.0	Wall, levee, channel improvement and pumping station	18,266,040	1,178,000	19,444,040
Covered Bridge, Sheffield, MA	96.0	Stone slope protection	430,000	-	430,000
Danbury, CT	56.0	Walls, channel improvement and bridge replacement	13,143,000	1,862,000	15,005,000
Derby, CT	12.0	Walls, levees and pumping Station	7,582,642	647,000	8,229,642
Hoosic River, Williamstown, MA	155.0	Stone slope protection	380,000	40,000	420,000
Mad River, Waterbury (Woodtick Area), CT	35.0	Channel improvements	1,448,087	122,452	1,570,539
North Canaan, Blackberry River, CT	83.0	Snagging and clearing project	73,865	-	73,865
Pittsfield, MA	133.0	Stone arch culvert	739,003	85,000	824,003
Salisbury, CT	76.0	Gabionade with slope protection	102,800	-	102,800
Sheffield, MA	96.0	Stone slope protection	202,608	-	202,608
Squantz Pond, New Fairfield, CT	43.0	Timber Bulkhead	116,296	-	116,296
Torrington, East Branch, CT	51.0	Dike and channel improvement	389,237	-	389,237
Torrington, West Branch, CT	52.0	Walls, dikes and channel	228,237	-	228,237
Waterbury- Watertown, CT	32.0	Wall, dike and channel	263,300	-	263,300

[1] For details of projects, see individual reports.
[2] To be borne by local interests. Includes relocations.

TABLE 1-S MERRIMACK RIVER BASIN, NH, AND MA (See Section 42 of Text) RESERVOIRS [1]

Name	Nearest City	Miles Above Mouth of Merrimack River	Height (feet)	Type	Reservoir Capacity (acre-feet)	Estimated Federal Cost: Construction	Estimated Federal Cost: Lands and Damages [2]	Estimated Federal Cost: Total
Hall Meadow	Torrington, CT	41.0	73	Rock and	8,620	$2,572,357	$1,290,000 [3]	$3,862,357
Franklin Falls	Franklin, NH	118.2	140	Earthfill	154,000	$ 6,190,487	$ 1,760,000	$ 7,950,487
Blackwater	Concord, NH	118.8	75	Earthfill	46,000	766,746	553,000	1,319,746
Hopkinton-Everett	Concord, NH	87.3	115	Earthfill	157,300	12,715,440	8,737,000	21,452,440
Edward MacDowell	Keene, NH	161.3	67	Earthfill	12,800	1,708,253	306,000	2,014,253
Phillips	Fitchburg, MA	105.4	48	Earthfill	1,600	13,450,000	7,350,000	20,800,000

[1] For details, see individual report.
[2] Includes highway, railroad, and utility relocations.

LOCAL PROTECTION PROJECTS [1]

Location	Miles Above Mouth of Merrimack River	Type of Structure	Estimated Cost: Construction	Estimated Cost: Lands and Damages [2]	Estimated Cost: Total
Amesbury, Powwow and Merrimack Rivers, MA	3.0	Wall and revetment	$ 132,113	$ -	$ 132,113
Haverhill, MA	21.0	Floodwall, conduit and pumping station	1,863,485	-	1,863,485
Lowell, MA	39.0	Wall and levee	490,600 [5]	90,000	580,600
Nashua, NH	55.0	Wall and levee	270,000	3,000	273,000 [4]
North Nashua River, Lancaster, MA	90.0	Stone slope protection	81,671	-	81,671
North Nashua River, Lancaster, MA	90.0	Stone slope protection	360,000	-	360,00
North Nashua River, Leominster, MA	94.0	Stone slope protection	203,675	-	203,675
North Nashua River, Leominster (Sewer Line), MA	94.0	Stone slope protection	295,273	-	295,273
North Nashua River, MA	100.5	Channel improvement	3,235,000 [3]	-	3,235,000
Saxonville, MA	69.0	Wall, levee, channel	4,218,700	530,000	4,748,700

[1] For details, see individual report.
[2] To be borne by local interests.
[3] Excludes $1,370,000 Public Works Administration Funds expended on Fitchburg, MA.
[4] Excludes $15,000 expended from Contributed Funds.
[5] Excludes $794,374 Public Works Administration Funds.

TABLE 1-T THAMES RIVER BASIN, CT, RI AND MA
(See Section 49 of Text)
RESERVOIRS [1]

Name	Nearest City	Miles Above Mouth of Thames River	Height (feet)	Type	Reservoir Capacity (acre-feet)	Estimated Federal Cost		
						Construction	Lands and Damages [2]	Total
Hodges Village	Webster, MA	74.5	55	Earthfill	13,000	$1,317,268	$3,144,000	$4,461,268
Buffumville	Webster, MA	74.4	66	Earthfill	12,700	2,157,603	841,000	2,998,603
East Brimfield	Southbridge, MA	82.8	55	Earthfill	30,000	1,337,043	5,720,000	7,057,043
Westville	Southbridge, MA	75.2	80	Earthfill	11,000	2,284,683	3,400,000	5,684,683
West Thompson	Putman, CT	59.3	70	Earthfill	25,600	5,036,220	1,965,000	7,001,220
Mansfield Hollow	Willimantic, CT	40.0	70	Earthfill	52,000	4,107,164	2,340,000	6,447,164

[1] For details, see individual report.
[2] Includes highway, railroad, and utility relocations.

LOCAL PROTECTION PROJECTS

Location	Miles Above Mouth of Thames River	Type of Structure	Estimated Cost		
			Construction	Lands and Damages [1]	Total
Norwich, CT	15.0	Channel improvements	$1,209,000	$72,000	$1,281,000
West River, New Haven, CT	-	Channel improvements	4,619,543 [2]	554,638	5,174,181

[1] Borne by local interests.
[2] Excludes $12,590 for revisions to flood insurance rate map and $71,650 Contributed funds not required.

TABLE 1-U RECONNAISSANCE AND CONDITION SURVEYS

Project	Date Survey Conducted
MASSACHUSETTS	
Andrews River	Jun-Sep 2001
Annisquam River	Mar-Apr/Aug 2001
Aunt Lydia's Cove	May-Jul 2001
Bass Harbor	Mar 2001
Beverly Harbor	Oct-Nov 00/Aug 2001
Boston Harbor	Oct-Nov 00/Jan-Feb/May 2001
Cohasset Harbor	Aug 2001
Cuttyhunk Harbor	May 2001
Essex River	Oct-Dec 00/Jan-Feb 2001
Gloucester Harbor	Jan-Feb 2001
Green Harbor	May/Aug-Sep 2001
Hingham Harbor	Mar 2001
Ipswich River	Dec 00/Jan-Feb/May 2001
Plymouth Harbor	Jun-Aug 2001
Rockport Harbor	Nov 00/Jul-Sep 2001
Salem Harbor	Jul 2001
Sesuit Harbor	Jun/Sep 2001
Taunton River	Mar-May 2001
Weymouth Fore River	Oct-Nov 00/Mar/May-Jun/Sep 2001
CONNECTICUT	
Black Rock Harbor	May 2001
Branford Harbor	Jan-Mar 2001
Bridgeport Harbor	Oct 00/Jun-Aug 2001
Clinton Harbor	Nov-Dec 00/Jan-Mar/Jun/Aug-Sep 2001
Connecticut River Below Hartford	Oct/Dec 00/Mar/Jun/Aug 2001
Greenwhich Harbor	Mar 2001
Housatonic River	Apr-Jun/Aug-Sep 2001
Mystic River	Apr-May/Aug 2001
New Haven Harbor	Oct/Dec 00/Mar-Apr/Jul 2001
New London Harbor	Feb-Mar/Jun 2001
Norwalk Harbor	Mar/Jun-Sep 2001
Pawcatuck River	Sep 2001
Stamford Harbor	Feb-Mar 2001
Stony Creek	Mar 2001
Thames River	Mar 2001
Westcott Cove	Aug 2001
Westport Harbor	Aug-Sep 2001

Project	Date Survey Conducted
MAINE	
Beals Harbor	Feb-Mar 2001
Belfast Harobr	Mar 2001
Bucks Harbor	Mar 2001
Camden Harbor	Feb-Apr/Jul-Aug 2001
Cape Porpoise Harbor	Jul 2001
Carvers Harbor	Mar 2001
Eastport Harbor	Mar 2001
Isle Au Haut Thoroughfare	Mar 2001
Kennebec River	Oct 2000
Kennebunk River	Oct-Nov/Jan/May-Jul 2001
Lubec Harbor	Mar 2001
Machias River	Mar 2001
Moosabec Bar	Mar 2001
Narraguagus River	Jan-Jul 2001
Owl's Haed Harbor	Jan-Feb/May/Aug-Sep 2001
Piscataqua River	Jul 2001
Portland Harbor	Jul 2001
Portsmouth Harbor	Jul-Sep 2001
Rockland Harbor	Feb-Apr 2001
Saco River	Feb-Mar 2001
Scarboro River	Oct 00/Jul 2001
Searsport Harbor	Mar 2001
South Bristol Harbor	Jul-Sep 2001
Woods Island Harbor	Jul 2001
NEW HAMPSHIRE	
Cocheco River	Oct 00/Mar/Jun-Sep 2001
Hampton Harbor	Aug 2001
Little Harbor	Jun-Jul 2001
Rye Harbor	Mar 2001
RHODE ISLAND	
Apponaug Cove	Mar 2001
Block Island Harbor of Refuge	Jun 2001
Bullocks Point Cove	Mar 2001
Great Salt Pond, Block Island	Aug 2001
Newport Harbor	Jun 2001
Pawtuxet Cove	Nov-Dec 00/Jan-Feb 2001
Point Judith Harbor of Refuge	Dec 00/Jan/Mar 2001
Providence River & Harbor	Jun 2001
Seekonk River	Oct 00/Mar 2001
Warren River	Jan 2001
Warwick Cove	Mar-Apr/Jun/Aug-Sep 2001

TABLE 1-U (Continued) RECONNAISSANCE AND CONDITION SURVEYS

Dredged Material Management Program

Major activities for fiscal year 2001 were (1) monitoring surveys at the Portland, Central Long Island Sound, Rockland, Western Long Island Sound, and Tupper Ledge disposal sites (2) maintenance, replacement, and repositioning of disposal site buoys. Additionally, four monitoring study reports were completed and distributed to the public and regional resource agencies. Total cost of contracts was $961,121. Labor costs of $161,178 for program management, sampling and testing, and environmental analysis were incurred.

Long Island Sound

New England and New York Districts have an ongoing responsibility for maintenance of the 55 existing Federal Navigation Projects in Long Island Sound and adjacent waters. Work this FY consisted of continuing a Dredged Material Disposal Site Designation study in cooperation with EPA. A total of $1,119,638 was expended this FY on a continuing contract for the preparation of an Environmental Impact Statement. In-house efforts included $123,761 for environmental work, $37,840 for project coordination and management, and $3,747 for contract administration.

NEW YORK, NY DISTRICT

This District comprises western Vermont, small portions of western Massachusetts and Connecticut, eastern New York including Long Island, and northeastern New Jersey, embraced in the drainage basins tributary to Lake Champlain and St. Lawrence River system east thereof and to the Atlantic Ocean from New York – Connecticut State Line to, but not including Manasquan Inlet, NJ. In addition it exercises jurisdiction over matters pertaining to improvement of Great Lakes to Hudson River waterway. Under the direction of the Secretary of Army, the District Engineer, as Supervisor of New York Harbor, also exercises jurisdiction under the laws enacted for the preservation of the tidal waters of New York Harbor, its adjacent or tributary waters, and the waters of Long Island Sound.

IMPROVEMENTS

1. AQUATIC PLANT CONTROL

Location. Navigable waters, tributary streams, connecting channels, and other allied waters in New York District.

Existing Project. Provides for control and progressive eradication of water chestnut. Eurasian water milfoil, and other obnoxious aquatic plant growths from the navigable waters, tributary streams, connecting channels, and other allied waters of the United Sates, in the combined interest of navigation, flood control, drainage, agriculture, fish and wildlife conservation, public health and related purposes, including continued research for development of the most effective and economic control measures. (See Table 2-B for Authorizing Legislation.)

Local cooperation. Local interests were required to provide 30 percent of the cost of the program except as modified by 1962 River and Harbor Act and agree to hold the United Sates free from damages. The Water Resources Development Act of 1986 changed the local responsibility from 30% to 50%. In FY 87 the States involved in the program were permitted to keep the cost sharing at 30% by order of the Secretary of the Army. Starting FY 88, However, Local sponsors contributed 50% of the costs. The FY 2002 APC Project Cooperation Agreement is scheduled to be executed in June 2002.

Operations and results during period. The purpose of the control program, started in FY 1982, is for the removal of nuisance aquatic plants in the Lake Champlain Basin, Vermont. Recent work continued the removal of water chestnut and Eurasian milfoil from portions of the basin.

Condition as of September 30. Reconnaissance report covering the aquatic plant problems of the North Atlantic Division areas was complete in August 1967. The General Design Memorandum for this program was completed in March 1982 by the State of Vermont. The total Federal cost of this control program to date is $2,670,338 in FY 2001, the New York District did not cost-share a FY 2001 program with the State Vermont, as Federal funds were not yet available. In October 1991, Waterways Experiment Station was directed to conduct a multi-year study which would identify and test potential biocontrol agents of water chestnuts. No successful biocontrol agents of water chestnut were identified. FY 2002 funds in the amount of $300,000 will be used by New York District to continue the Aquatic Plant Control Program with the State of Vermont.

2. ARTHUR KILL CHANNEL, HOWLAND HOOK MARINE TERMINAL, NY & NJ

Location. The project includes the Arthur Kill Channel from its confluence with the Kill Van Kull and Newark Bay Channels westerly for about 2.2 miles to the Howland Hook Marine Terminal in Staten Island, NY, and thence southwesterly for about 1.1 miles to the Tosco Oil Refining Company and GATX facilities in NJ and NY, respectively. (See National Ocean Survey Chart 12333.)

Existing Project. Deepening the existing 35 foot Arthur Kill channel to 41 feet MLW from its confluence with the Kill Van Kull and Newark Bay Channels to the Howland Hook Marine Terminal in Staten Island. New York and to 40 feet MLW from Howland Hook Marine Terminal to the Tosco Oil Refining Company and GATX facilities in NJ and NY, respectively. Also included are

selected widenings and realignments of the channel, as well as the removal of the U.S. dike north of Shooters Island. Project also provides for mitigation consisting of restoration and enhancement of approximately 23 acres of intertidal salt march. The current estimate of the total project cost at Oct. $392,400,000 of which the Federal cost is estimated at $251,300,000 and the non-Federal cost is estimated at $141,100,000.

Local Cooperation. The Port Authority of New York and New Jersey is the non-Federal sponsor for the project, Negotiations with the sponsor to enter into a local cooperation agreement with the Government are ongoing. It is estimated that a Project Cooperation Agreement (PCA) for the project will be executed in May 2002.

Terminal Facilities. See Port Series No.5

Operations and results during period, and conditions as of Sept. 30. The existing Arthur Kill Channel has a channel depth of 35 feet MLW. The current project, which has not yet been initiated, will deepen the channel from its confluence with the Kill Van Kull and Newark Bay Channels to Howland Hook Marine Terminal to 41 feet MLW, and from Howland Hook Marine Terminal to the Tosco Oil Refining Comp[any and GATX facilities to 40 feet MLW.

3. BURLINGTON HARBOR, VT.

Location. About 100 acres in extent, is in a half-moon-shaped indentation in eastern shore of Lake Champlain, about 40 statute miles south of international boundary line, 70 statute miles north of southern end or head of lake, and 20 statute miles southeast of harbor at Plattsburg, N.Y. (See Lake Survey Chart 172.)

Existing project. A breakwater 6,000 feet long about 1,000 feet from shore and practically parallel with it, to be built of stone-filled timber cribs capped with large stone or concrete. Completed breakwater is in two sections, northerly 500 feet being separated from southerly 5,500 feet by a gap 200 feet wide for purpose of safety in entering harbor during storms. Reference plane of low lake level is 93 feet above mean sea level. Level of lake has varied from 0.6 foot below up to 8.8 feet above low lake level. Usual annual variation is 5.8 feet. New work for completed project cost $706,414.

Terminal facilities. Bulkhead shore front and open pile and solid filled piers having a total dockage of 6,520 feet. Of the terminals, 5 wharves, 2 piers, and 1 ferry slip are in use. Five terminals have railroad connections. Facilities are considered adequate for present needs of commerce.

Local cooperation. None required.

Operations and results during the period. A contract for rehabilitation of Breakwater, Lake Champlain, Burlington. Vermont was awarded on 6 June 2001. The contract was awarded to Durocher Dock and Dredge, Inc to repair various segments of the breakwater. Operations and

maintenance funds in the amount of $2,123,391.53 was expended on Burlington Harbor during FY 2001.

Condition as of September 30. Existing project was practically completed in 1890; part of breakwater originally proposed was not built, the work completed being considered sufficient for needs of navigation. Breakwater was built in two section.

4. EAST ROCKAWAY INLET, NY

Location. On south shore of Long Island between main body of island and western end of Long Beach. It is 10 miles east of Rockaway Inlet and about 27 miles by water south and east from the Battery, New York City. (See National Ocean Survey Chart 12353.)

Existing Project. A channel 12 feet deep at mean low water and 250 feet wide from 12 foot contour in Long Beach Channel protected by a jetty. Mean tidal range, 4.3 feet: mean range of spring tides. 5.2 feet above mean high water. New work for completed project cost $603,969, including $100,000 contributed funds. (See Table 2-B for Authorization Legislation.)

Local Cooperation. Complied with

Terminal Facilities. There are numerous terminals in Oceanside, Island Park, Long Beach, and East Rockaway, including oil terminals. Other terminals are repair and mooring docks with mechanical handling facilities. There are public wharves at East Rockaway and Woodmere. Waterfront on north side of Long Beach has bilkheaded. Facilities are considered adequate for existing commerce.

Operations and results during the period. A combined maintenance dredging and beach nourishment continuing contract for East Rockaway Inlet/Rockaway Beach was awarded on September 27, 2000 to Weeks Marine Inc. The Maintenance dredging phase of the project involved the dredging of 241,470 cubic yards of material from East Rockaway Inlet federal navigation channel with placement at Rockaway Beach. Dredging is expected was completed during the 1st quarter of FY 2001. Operations and Maintenance funds in the amount of $2,230,106.25 was expended on this project during FY 2001.

Conditions as of September 30. Work under existing project began February 1933 and is 10 percent complete. East jetty, 4,250 feet long was completed in July 1934. Project channel was completed in May 1935.

5. FIRE ISLAND TO JONES INLET, NY

Location. On south shore of Long Island, about 50 miles by water south and east of Battery, New York City. Fire Island Inlet is the main entrance into Great South Bay from the Atlantic Ocean. (See National Ocean Survey Chart 12352.)

Existing Project. A jetty at Fire Island Inlet extending generally southwest and south for 5,000 feet from high ground on Democrat Point at the west end of Fire Island and a channel 14 feet deep and 450 feet wide along the northern edge of the Inlet's shoaling area connecting the ocean to the deep water in the Inlet. Mean tidal ranges at the ocean and inlet ends of Democrat Point are 4.1 feet and 2.4 feet respectively. Irregular fluctuations due to wind and atmospheric pressure vary from 2.5 feet below mean low water up to 6.2 feet above mean high water on the ocean side. (See Table 2-B for Authorizing Legislation.)

Local Cooperation. Requires cost sharing and lands, easements and rights-of-way.

Terminal Facilities. Great South Bay has extensive public and private facilities for mooring and servicing recreational boats. Much of this traffic uses the inlet during the boating season and some traffic (Coast Guard craft and party head fishing boats) continues throughout the year.

Operations and results during the period. The sixth scheduled nourishment cycle was awarded on 21 September 2001. The maintenance dredging and beach nourishment project involves the dredging of Fire Island Inlet Channel and deposition basin with placement of 1,000,000 cubic yards of sand as nourishment along the designated feeder beach (Gilgo). In addition, the project also involves options which call for additional beach placement at Gilgo, and an option for beach placement at Robert Moses State Park. Operations and maintenance funds in the amount of $147,268.24 was expended on this project during FY 2001 for engineering and design work and award of contract.

Condition as of September 30. The jetty completed in 1941 surpassed its capacity as a sand entrapping agent in a little over a decade. Since the extensive sand bars and shoals continued to form west of the jetty and in the inlet throat. Hydraulic dredging in the inlet was undertaken in 1959 and again in 1969 under a combined beach erosion control and navigation authorization (1958 Act). Since then 3 more hydraulic dredging operations were conducted starting 1973 and completed in 1977 under provision of the 1962 Act (See Table 2B). Maintenance dredging using a small hopper dredges has also been done from time to time. Due to local concerns about inlet dredging and consequent erosion at Oak Beach maintenance had been deferred since 1979 which allowed the complete shoaling of the authorized project channel. To facilitate the navigation in this period the existing natural channel was dredged in FY 1985 and in FY 1987. In FY 1987 sand was deposited offshore of Gilgo Beach by hopperdredge using operations and maintenance funds. O&M funds were also used during FY 1987 and 1988 to make repairs to the inner portion of the jetty.

In March 1988 the District recommended to plan to maintain a realigned channel in the vicinity of the natural channel to a depth of 14 feet (plus 2 feet of allowable overdepth) and a width of 450 feet. The plan also recommended placement of the dredged material along Gilgo Beach for shore protection purposes. The recommended plan was approved by the Assistant Secretary of the Army for Civil Works on 2 August 1988.

Since FY 1990, the realigned channel was dredged to project every two years with placement of material along Gilgo Beach for shore protection purpose.

6. GLEN COVE, NY

Location. A narrow tidal inlet extending eastwardly about 1 mile from east side of Hempstead Harbor on the north shore of Long Island, 26 miles northeast of the

Battery, New York City. (See National Ocean Survey Chart 12366).

Existing Project. Provides for a channel 100 feet wide and 8 feet deep at mean low from deep water in Hempstead Harbor about 1 mile to the head of navigation at city of Glen Cove. Mean tidal range, 7.5 feet; mean range of spring tides, 8.7 feet; irregular fluctuations due to wind and barometric pressure vary from 3.6 feet below mean low water up to 8.4 feet above mean high water. New work for completed project cost $29,760, exclusive of $29,774 expended from contributed funds. Widening to 100 feet the upper 1,630 feet of channel where it crosses to foregoing description and cost estimate. Existing project adopted by 1925 River and Harbor Act (H. Doc.207, 68th Cong., 1st sess.). Latest published map is in project document.

Local cooperation. River and Harbor Act of March 3, 1925 provides that local interests pay one-half of first cost of the work, provided rights-of-way, spoil disposal areas, and bulkheads, and give assurances that adequate terminals will be built. Complied with as to contribution of one-half of first cost of work done to date, ceding of rights-of-way, provision of disposal areas, and the construction of terminals. Pending construction of bulkheads by local interests along southerly section of channel in the upper 1,600 feet of the improvement, a channel of less than project width has been evacuated. In a letter dated February 4, 1948, the Commissioner, Department of Public Works, City of Glen Cove, was notified of the conditions affecting the remaining work. There is no indication as to when compliance with these conditions may be expected.

Terminal Facilities. There are 1,875 feet of bulkheads along northerly side of waterway. Terminals are adequate for present needs and there is ample waterfront, both public and private, for additional terminals as needs arise.

Operations and results during the period. The outer portion of the channel was maintained in FY 1997. Maintenance dredging of the remaining portion of the creed was awarded to Bullard Lindsay Contracting on 30 August 2000. The basic work under the contract included the dredging with upland placement of approximately 35,000 cubic yards of material. Options within the contract allowed for the removal of up to 15,000 additional cubic yards of material based on the available capacity of the upland site. Mobilization and disposal site preparation commenced on 19 Sept 2000; and dredging started on 18 October 2000. On November 10th, the contractor informed the Corps that a large amount of debris and pilings were encountered and concluded that it was increasingly non-productive to try to finish the project hydraulically. Subsequently, the contract was modified to use an excavator dredge. Dredging resumed in late February and was suspended again in April 2001 due to the discovery of an oil layer sediment in the creek and radiation in dredged material at the upland dewatering site in May 2001. A stop work order was issued and radiological contamination signs were posted. The work site was immediately secured by the Corps. and EPA. Operations and maintenance funds in the amount of $1,298,938.91 was expended on Glen Cove creek during FY 2001.

Conditions as of September 30. Entire existing project is about 55 percent complete. Work under the active portion of existing project was commenced on August 1933 and completed August 1934. The work done provided a channel 100 feet wide from deep water in Hempstead Harbor for 3,470 feet, thence gradually decreasing to 50 feet wide for 180 feet, and 50 feet wide for about 1,450 feet to the head of the improvement. Head of navigation is at City of Glen Cove, about 1 mile above the mouth. Work remaining to complete existing project consists of widening to 100 feet the upper 1,630 feet of channel and building a sand fence along the north side of channel where it crosses the beach. The Glen Cove Creek maintenance dredging project consists of the removal of total, 45,000 c.y. of sediment from the creek with the placement of the dredged material an upland site for dewatering and temporary storage. The dredged material would be removed later by the City of Glen Cove for beneficial use, if feasible, and/or final disposal at an approved upland site.

7. HUDSON RIVER, NY

Location. Originates in Adirondack Mountains, about 250 miles in a direct line and 315 miles along its course from the Battery, New York City, and flows generally southerly into New York Bay-Section under improvement extends from New York City about 156 miles to Waterford. (See National Ocean Survey Charts 12335, 12341, 12343, 12347, 12348, and 14786.)

Previous project. For details see Annual Reports for 1915 and 1938, pages 164 and 226, respectively.

Existing projects. A channel 600 feet wide from New York City to Kingston, and thence 400 feet wide to Albany, with widening at bends, a turning basin 700 feet wide and 1,200 feet long at Albany, and 2 anchorages, 1 near Hudson and 1 near Stuyvesant, each 400 feet wide and an average length of 2,400 feet; all with depth of 32 feet in soft material and 34 feet in rock to 2,200 feet south of the Mall Bridge; thence 27 feet deep and 400 feet wide to 900 feet south of Mall Bridge, thence 14 feet deep at lower low water and generally 400 feet wide to Federal lock at Troy; and thence of same depth and 200 feet wide to southern limit of State barge canal at Waterford; and removal of State dam at Troy and construction of a lock and dam about 2.5 miles below Waterford. Channel is to be formed by dredging and rock excavation, and maintained by dredging and constructing new and raising and repairing old, longitudinal dikes, built partly under previous projects and partly by the State of NY.

In the tidal section below the Federal dam at Troy, the assumed lowest low water plane downstream to Albany is 3 feet below mean sea level. Mean tidal range is about 5 feet below the dam and about 4.9 feet at Albany. The normal pool level above the dam from Troy to Waterford is 14.3 feet above mean sea level, with the mean range of pool level in seasons of moderate rains being 2.2 feet. (See Table 2-C for features of lock and dam included in existing project.) New work for completed project cost $39,050,019 exclusive of amounts of expended on previous projects. Widening to form harbors at Albany and Troy, NY, to 12 feet deep at a cost of $522,000 (1954) and completion of 27 foot channel at Albany at a cost of

$642,000 (1957) was placed in deferred for restudy category, and has since been deauthorized. All three features of work are excluded from foregoing description of existing project and cost estimate. Construction of mooring facilities has been authorized (See Table 2-B for Authorizing Legislation.)

Local cooperation. Complied with except that local interests must furnish suitable soil disposal areas for future maintenance as required.

Terminal facilities. See Port Series No.6

Operations and results during period. A continuing contract for maintenance dredging of approximately 130,000 cubic yards of material was awarded in FY 2001 to restore project dimensions in the Hudson to Germantown reaches. Operations and maintenance funds in the amount of $1,906,933 was expended maintenance dredging in FY 2001.

Government plant and hired labor were employed through the fiscal year performing project condition surveys at a total cost including supervision and administration, of $204,178 during FY 2001.

Government plant and hired labor were employed through the fiscal year in the removal of snags and other obstructions which constituted a potential hazard to navigation at a total cost of $246,595.

Government plant and hired labor were employed through the fiscal year performing operation and maintenance of the Troy Lock and Dam and associated buildings and grounds. Total funds in the amount of $1,190,448 was expended during FY 2001 for operation and maintenance of the Troy Lock and Dam and associated buildings and grounds including performing instrumentation monitoring, periodic inspection of the Troy Dam gallery, and supervision and administration.

Condition as of September 30. Work under existing project began in July 1910 and was substantially completed in November 1965. New lock and dam at Troy, removal of dam at Troy and construction of 15,545 linear feet of dikes also are complete. In reconstruction of old dikes 39,676 linear feet are raised to adopted crest height. Channel from New York City to Albany is complete to a depth of 32 feet except for the 1,500 linear foot section at the northern end of the 32 foot project which has never been dredged to project depth. Channel from Albany to Waterford is complete to a depth of 14 feet.

8. HUDSON RIVER AT ATHENS, NY

Location. Athens, New York is along the west bank of the Hudson River approximately 116 miles above the Battery, New York City and approximately 29 miles downstream of Albany, New York. (See Geological Survey, Hudson North, NY quadrangle).

Existing project. No constructed project has ever been done in Athens. The main Hudson River navigation channel runs along the east bank of the Hudson River, Hudson, New York opposite Middle Ground Flats. The proposed project for Athens consists of the design and construction of a 300 foot wide channel to a depth of 24 feet (mean low water) extending from the existing Federal in the vicinity of the Hudson City Light to the north dock at Union Street in Athens. The project was authorized in Section 110 of the September 1996 Energy and Water Appropriations Act. Preliminary surveys, geologic, and sediment chemical tests have been carried out. A preliminary channel alignment has been prepared with accompanying dredge quantities. The preliminary cost is $21,500,000 with additional cost needed for improvements at the existing terminal docks. The Design Agreement and Project Management Plan have been completed and were approved to by the non-Federal sponsor, Green County Industrial Development Agency.

Local cooperation. The non-Federal sponsor has signed the Design Agreement and provide the 25% cost share of the design, studies can be initiated. If the project is found to be viable, then another non-Federal sponsor would cost share in the construction.

Operation and results during the period, and condition as of Sept. 30. Preliminary studies have been completed and the engineering design and environmental assessment activities have been initiated.

9. JAMAICA BAY, NY

Location. Inside south shore of Long Island, the entrance being about 17 miles by water south and east of the Battery, New York City. (See National Ocean Survey Chart No.12350).

Previous projects. For details see page 1770 of Annual Report for 1915, and page 185 of Annual Report for 1938
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Existing Project. Provides for an interior channel extending from vicinity of Marine Parkway Bridge along west and north shores of the bay, 18 feet deep at mean low water and 300 feet wide to Mill Basin, with a swinging basin, 1,000 feet wide and 1,000 feet long at the point – thence 12 feet deep and 200 feet wide to Fresh Creek Basin; and interior channel extending from the same locality along south shore to Head of Bay, 15 feet deep and 200 feet wide, a channel in Mott Basin, 15 feet deep and 200 feet wide extending from the channel along the south shore, 3,000 feet to junction of the two branches, thence 200 feet in north branch (Inwood Creek) and 3,200 feet in south branch; and an entrance channel connecting the two interior channels with deep water in Atlantic Ocean, of suitable hydraulic dimensions to maintain present tidal prism in the bay, but not less than 18 feet deep and 500 feet wide from opposite Barren Island to Rockaway Point, Thence enlarging to not less than 20 feet deep and 1,000 feet wide to the sea, protected by one riprap jetty. Length of section included in project is 19.7 miles. Mean tidal range, 4.9 feet at Barren Island, and 5.1 feet at Head of Bay; mean range of spring tides, 5.9 and 6.1 feet, respectively; irregular fluctuations due to wind and atmospheric pressure vary from 4 feet below mean low water to 4.9 feet above mean high water.

Cost for new work for completed project is $4,466,421 (July 1961), excluding amounts expended on previous projects.

Legal cooperation. River and Harbor Act of 1945 provides that in lieu of conditions heretofore prescribed local interest furnish suitable areas for disposal of dredge materials for new work and subsequent maintenance, and hold the United States free from damages. City of New York was notified of conditions of local cooperation in letter dated January 15, 1946. In letter dated February 7, 1946, the Mayor of New York advised disposal areas are available and necessary document holding the United States free from claims for damages" would be executed.

River and Harbor Act of 1950 provides local interests furnish lands, easements, rights-of-way, and suitable areas for disposal of dredged material during construction and subsequent maintenance, hold the United States free from damages and perform all necessary alterations to existing terminals and bulkheads, and dredge adequate approaches thereto. These conditions have been fulfilled.

Terminal facilities. See Port Series No.5.

Operations and results during the period. A continuing contract was awarded to B&B Dredging Company on 20 September 2000 for maintenance dredging of the Outer Entrance Channel of Jamaica Bay for removal of all material except ledge rock lying above the plane of 20 feet below mean low water with placement of the dredged material on the nearby bay beaches at Breezy Point, New York. Approximately 228,610 cubic yards of material was removed. The dredging was completed in December 2000. Operation and maintenance funds in the amount of $1,286,474.75 was expended on this project during FY 2001.

Conditions as of September 30. Work under existing project was commenced in August 1912 and completed in June 1961. Westerly interior channel from Barren Island to Fresh Creek Basin and swinging basin at Mill Basin were completed in April 1929. Southerly interior channel and channel in Mott Basin, including its two branches were completed in June 1961. No new work dredging of entrance channel, was done, since depths provided under previous project were greater than those required under existing project. East jetty was restored to project dimensions in August 1963.

10. KILL VAN KULL – NEWARK BAY CHANNEL, NJ & NY

Location. The project includes Kill Van Kull connecting upper New York Bay with Newark Bay, and channels in lower Newark Bay serving Port Newark and Elizabeth Marine Terminal. These terminals are located on the west shore of Newark Bay. (See national Ocean Survey Chart 12333.)

Existing project. Deepening the existing Kill Van Kull channel and channels in lower Newark Bay, including turning and maneuvering areas, as well as deepening the Elizabeth and Port Newark channels. The deepening to be done from the existing 35 foot depth incrementally to 40 feet and then 45 feet. The Federal cost of construction is estimated at $582,500,000 with an additional $436,600,000 to be contributed by local interests.

Local cooperation. The Port Authority of New York and New Jersey, the local cooperating agency, has entered into a local cooperation agreement with the Government which was executed on 30 May 1986. A supplemental agreement was executed on 21 May 1987, for Phase I. A new project cooperating agreement will be entered into on 30 January 1999 for Phase II (40 feet to 45 feet).

Terminal facilities. See Port Series No. 5, Vol. 2.

Operations and results during period, and condition as of Sept. 30. Stage 1, channel deepening to 40 feet in seven contracts was substantially completed. Contract No. 1, awarded in June 1987, is completed. Contract No.2 was awarded in July 1988 and is completed. Contract No.3 was awarded in Sept. 1988 and is completed. Removal of rock and hard material in the Kill Van Kull and Newark Bay was divided in three contracts 4A, 4B, and 4C. Contract 4A was awarded in April 1991 and was completed in Sept. 1995. Contract No. 5 was awarded in May 1988 and is complete. Contract 4C was awarded in Sept. 1994 and was completed in July 1995. Stage 2, channel deepening to 45 feet has commenced with start of work on a Limited Re-evaluation Report, which was approved Oct., 1997. First construction contract for Area 2 was awarded 16 March 1999, Sept. 2000 and was completed September 2000. The second construction control for Area 1 was awarded 4 Aug. 1999 and completed Aug. 2000. The third construction control for Area 4A was awarded 28 Feb. 2000 and was completed Nov. 2001. The fourth construction control for Area 7 was awarded 12 March 2001. Area 5 was awarded 4 April 2001.

11. NARROWS OF LAKE CHAMPLAIN, NY & VT

Location. This waterway, 37 miles long, comprises southern end of Lake Champlain and extends from Whitehall to Crown Point, NY at southern extremity of lake, northerly to Benson Landing, VT. (See N.O.S. Chart 14784).

Previous projects. For details, see Annual Reports for 1931, and 1963, pages 256 and 177 respectively.

Existing project. A channel extending from Whitehall, NY at head of Lake Champlain to Benson Landing, 12 feet deep at low lake level and generally 150 feet wide, and installation of lender booms at Putts Rock, Putts Leap, Narrows near Dresden, Pulpit Point and, Cedar Mountain. Reference plan of low take level is 93 feet above mean sea level. Section included in project is about 13.5 miles. Usual annual variation of lake level is 5.8 feet and extreme variation varies from 0.6 foot below up to 8.8 feet above low lake level.

Widening channel throughout its entire length to project width of 200 feet is inactive and excluded from foregoing description of existing project and cost estimate. (See Tale 2-B for Authorizing Legislation.

Local cooperation. None required.

Operations and results during the period. Government plant and hired labor were employed intermittently during fiscal year 2001 in the removal of

snag and obstructions that constituted a potential hazard to navigation at a cost of $2,410. Government plant and hire labor were employed in the repair and replacement of deteriorated fender booms at a cost of $609 during the fiscal year. Operations and maintenance funds in the amount of $ 7,500 was expended on project condition surveys, and a continuing contract was awarded for maintenance dredging of the channel. Funds in the amount of $757,317 was expended on maintenance dredging during FY 2001.

Condition as of September 30. Work under the existing project was commenced June 1919 and is about 77 percent complete. A channel 12 feet deep at low lake level and least width of 150 feet has been excavated throughout the length of the improvement, except at the Elbow, where the width is 110 feet. Fender booms have been placed at the elbow. (Putts Leap and Putts Rock.)

12. NEW YORK HARBOR AND ADJACENT CHANNELS, (PORT JERSEY CHANNEL), NJ

Location. The Port Jersey Channel is the navigation channel located in the Upper Bay of New York Harbor. The Channel runs from its confluence with Anchorage Channel to its head of navigation in Bayonne, where Global Terminal & Container Services, Inc. provides berthing facilities for container commerce within the Port of New York and New Jersey.

Existing Project. The Federal Port Jersey Channel Project will deepen and widen the existing (non-Federal) Port Jersey Channel and add a turning basin at the head of navigation. The authorized project provides for deepening the existing 35 to 38 foot deep channel to a depth of 41 feet deep below mean low water and generally 450 feet wide with suitable bends and turning areas to extend from deep water in the Anchorage Channel in the Upper Bay of New York Harbor, westward approximately 12,000 feet along the southern boundary of the Port Jersey peninsula, to the head of navigation in Jersey City/Bayonne, New Jersey. The Federal cost of construction is estimated at $88,782,000 with an additional $29,592,000 to be contributed by the primary non-Federal sponsor, the State of New Jersey Department of Transportation.

Local Cooperation. The State of New Jersey Department of Transportation is the primary non-Federal sponsor for the Port Jersey Channel Project. The Port Authority of New York and New Jersey also serves as a limited project sponsor for the single purpose of providing indemnification to the Federal government for the project. The State of New Jersey and the Port Authority is expected to sign a Project Cooperation Agreement (PCA) with the Government by spring of 2002.

Operations and results during period, and conditions as of September 30. On October 23,2000, the Record of Decision for the Project was signed. On March 28, 2001, the Assistant Secretary of the Army for Civil Works submitted the Chief of Engineers report formally to Congress. With the completion of the plans & specifications for the first construction contract and the conclusion of PCA negotiations with the project sponsors, the draft PCA was submitted to Corps Higher Authority offices for review in August 2001.

13. NEW YORK HARBOR-COLLECTION AND REMOVAL OF DRIFT

Location. Applies to Lower and Upper Bays, New York Harbor; East River, Harlem River, Lower Hudson River Channel, New York, NY and New Jersey Channels, Newark Bay, NJ, Passaic and Hackensack Lower and Hackensack Rivers, NJ, Raritan and Sandy Hook Bays, NJ, Jamaica Bay, NY, the Western Portion of Long Island Sound, and their tributaries.

Existing project. Provides for collection, removal and disposal of drift, derelict vessels, deteriorated shore structures and debris along shores of New York Harbor and tributary waters, and for the repair of certain other in-use piers, wharves and shore structures. Work authorized before Act of 1974 was restricted solely to removal of drift from waterway and was funded as maintenance activity. The current estimate of first cost is $292,000,000 (October 1997 P.L.) including $68,000,000, cash contribution from local interests plus $89,000,000 to be contributed for repair of deteriorated shore structures in use. (See Table 2-B for Authorizing Legislation.)

Local cooperation. Local cooperation conditions of the plans currently under review by the Chief of Engineers provide that local interests must furnish all lands, easements and rights-of –way required for the improvement; hold the United States free from damages; enact and enforce local legislation to prevent creation of sources of drift, contribute in cash one third of the first cost of the Federal work, and make necessary repairs to deteriorated structures in use so as to eliminate them as a source of drift. These conditions are subject to approval by the Secretary of the Army and the President, as stipulated in Section 113 of the authorizing law, Public Law 91-611.

Operations and results (New work-cumulative to date). A total of five Liberty State Park contracts have been completed at a cost of $10,321,112. East River-Manhattan Waterfront contract was completed at a cost of $1,477,806. A contract for the removal of pier 17 and 18 on the East River was completed at a cost of $219,604. The City of Elizabeth contract was completed at a cost of $791,656. The Stapleton, Staten Island contract was completed at a cost of $2,910,400. A contract for the city of Hoboken was completed at a cost of $2,123,404. Work along the Jersey City South waterfront was completed at the cost of $979,580. Contract Number One at Weehawken to Edgewater was completed at a cost of $1,697,487. The Brooklyn Reach One contract was completed at a cost of $5,057,920. Work was completed on the Weehawken to Edgewater Contract No. 2 at a cost of $8,490,000, and Jersey City North Contract No. 2 at a cost of $1,800,000. The Bayonne One contract has been completed at a cost of $735,800. Hoboken Pier B was completed at a cost of $973,590, and Jersey City North 1 was completed at a cost of $2,358,000. Weehawken-Edgewater Contract 2A was completed at a cost of $4,550,000. The Brooklyn 2A Reach removal contract was completed in October 1999 at a cost of $4,878,022. The Passaic River, Newark, Kearny and Passaic, NJ Reach was completed in May 1999 at a cost of $109,907. Engineering and design is in progress for the Shooters Island Reach, the Arthur Kill, NY & NJ Reaches, the Bayonne 2 Reach, and the Kill Van Kull Reach.

Maintenance. U.S. Debris Boats Driftmaster, Gelberman and Hayward and auxiliary plant were assigned the task of removing and disposing of floating debris that is a hazard to navigation. Removal and disposal of 528,875 cubic feet (4,132 cords) of floating debris consisting mainly of driftwood, ranging in size from small blocks to large timbers, including pilings, pieces of wreckage, derelict vessels and sections of deteriorated pier structure was accomplished at a cost of $4,868,000 during FY 2001.

Conditions as of September 30. For work authorized by Water Resources Development Act, removal of drift sources has been completed in New Jersey at Liberty State Park, the City of Elizabeth, Hoboken, and parts of Jersey City, Bayonne, Weehawken to Edgewater, and Passaic River in Newark, Kearney and Passaic. The New York City work has been completed along the Manhattan side of the East River (South Street Seaport) along part of the Brooklyn waterfront, and at Stapleton, Staten Island.

14. NEW YORK HARBOR-ENTRANCE CHANNELS AND ANCHORAGE AREA

Location. In Upper and Lower Bays, New York Harbor is 330 miles southwest by water of Boston Harbor. Mass., and 165 miles northwest of entrance to Delaware Bay, NJ. The Upper Bay extends about 5.5 miles southerly from junction of Hudson and East River opposite the Battery, New York City to the Narrow. (See National Ocean Survey charts 12334,12335 and 12349.)

Existing project. Ambrose Channel 45 feet deep and 2,000 feet wide, extending about 10.2 miles from sea to deep water in the Lower bay; Anchorage Channel, and extension of Ambrose Channel, with same depth and width, in the Upper bay opposite anchorage grounds, about 5.7 miles long; and southerly entrance channel. Sandy Hook Channel (East Section) 35 feet deep and generally 800 feet wide extending 3.4 miles from 35 foot ocean contour to Bayside Channel along an alignment generally west of the South Channel; and elimination from authorized project of that portion of Bayside-Gedney Channel east of junction with new southerly entrance Gedney Channel east of junction with new southerly entrance channel; for bayside Channel 35 deep and 800 feet wide, extending about 5.3 miles from Bayside Channel to deep water in Lower Bay; a channel along New Jersey pierhead line connecting Kill Van Kull with deep water in anchorage Channel, south of Liberty Island anchorage. 20 feet deep fro 500 feet wide with sidening at bends to 800 feet and bout 3 miles long; anchorage in vicinity of Liberty (Bedloes) Island (about 160 acres in extent) 20 feet deep; and for removal of craven shoal to 30 feet deep; for a channel 16 feet deep, 200 feet wide, and about 2.3 miles long, extending from bell buoy 23 to Hoffman and Seinburne Island; for an anchorage area in Red Hooks Flats to depths of 45, 40 and 35 feet and an anchorage area in Gravesand Bay to 47 feet deep. Project depths refer to mean low water. mean tidal range is 4.7 at Fort Hamilton; mean range of spring tides, 5.7 feet; irregular fluctuations due to wind and atmospheric pressure vary from 3.9 feet below mean low water up to 6.2 feet above mean high water.

Location cooperation Fully complied with.

Terminal facilities. See Port Series No.5, Vol.2.

Operations and results during the period. A contract was awarded to Great Lakes Dredge & Dock Company on 12 July 2001 for removal of all material except ledge rock lying above the plane of 55 feet below mean low water with 0 feet allowable overdepth in the Ambrose Pile Height Reduction New York Harbor, NY with placement of the dredged material at the SHR (Sandy Hook Reef) at a project cost of $4,689,000. A continuing contract to the removal of approximately 487,470 cubic yards of material with placement at the Historical Area Remediation Site (HARS). Total operations and maintenance funds expended on maintenance dredging during FY 2001 was $6,852,401.

Condition as of September 30. Work under existing projects began in 1885 and is 100 percent complete. Main Ship and Bayside-Gedney Channels were completed to 30 feet deep in February 1891. Deepening of Bayside-Gedney Channel to 35 feet for a width of 800 feet was completed in June 1939. Ambrose Channel was completed to 40 feet deep for a width of 2,000 feet in April 1914 and substantially completed to 45 feet for a width of 2,000 feet in 1951. Relocation of Anchorage Channel was completed to 40 feet deep in October 1932. Center 800 feet was dredged to 45 feet in June 1947 and westerly 600 foot strip in April 1948. Easterly 600 foot strip was substantially completed in June 1953. Channel between Staten Island and Hoffman and Swinburne Islands was completed in December 1920 up to within 300 feet of southerly limits of the project. Dredged channel meets all needs of navigation and no further work of improvement is contemplated for the present. Channel along New Jersey peirhead line from Kill Van Kull to Anchorage Channel was completed in March 1939. Widening at bends nearly southerly and northerly ends authorized in 1948 was completed to depths of 45 and 35 feet in October 1976. Anchorage Channel was relocated to the westward in 1982. Red Hook Flats Anchorage was accordingly increased in area. No dredging was required. Liberty (Bedloes) Island anchorage was completed to 20 feet in Oct. 1944. Sandy Hook Channel (east section) was Gravesend Bay was completed to 47 Foot depth in November 1977.

15. NEW YORK AND NEW JERSEY CHANNELS

Location. Extends from deep water northwest of Sandy Hook, through Lower New York Bay and Raritan Bay, to Perth Amboy, and thence through Arthur Kill, Lower Newark Bay, and Kill Van Kull to deep water in Upper New York Bay. This route is approximately along boundary line between States of New York and New Jersey. (See National Ocean Survey Charts 123333, 12331 and 12327.)

Previous projects. For details, see 1963 Annual Report, pages 184 and 185.

Existing project. A channel through Lower New York Bay, Raritan Bay, Arthur Kill, Lower Newark Bay and Kill Van Kull to Upper New York Bay and Raritan Bay and in Arthur Kill to a point 1,000 feet north of Smith Creek, widened to 800 feet in vicinity of Seguine Point and Wards Point, respectively, thence 500 wide to a point 1,000 feet

south of Piles Creek; thence 500 to 600 feet wide and passing, north of Shooters Island and protected by a dike of nits northern side to junction of channel into Newark Bay; thence 800 feet wide through Kill Van Kull to Constable Hook; thence 1,000 feet wide for a point near the intersection with the channel along New Jersey pierhead line: and thence, 1,400 feet wide through Kill Van Kull to Upper New York Bay; with an anchorage 38 feet deep to accommodate five vessels south of Perth Amboy, all with suitable easing at bends and junctions. Section included in project is 30.8 miles long. In addition, construction of a dike north of Shooters Island and two secondary channels 30 feet deep and 400 feet wide, one south of Shooters Island and the other in Raritan Bay connecting with Raritan River, were completed under previous projects and maintained under existing project. A triangular area at the eastern end of the 30 foot channel south of Shooters Island was deepened to 35 feet in order to provide additional widening in the vicinity of Bergen Point and is included in the Newark Bay project. All depths refer to plane of mean low water. Mean range of tides varies between 4.7 and 5.1 feet; mean range of spring tides 5.7 to 6.3 feet; irregular fluctuations due to wind and atmospheric pressure vary from 3.9 feet below mean low water up to 6.9 feet above mean high water. Anchorage as Sandy Hook and cutoff at junction of Main Ship Channel are deferred for restudy and excluded from foregoing description and cost estimate. (See Table 2-B for Authorizing Legislation).

Local cooperation. Fully complied with except for the middle section of Arthur Kill where local interest must furnish spoil disposal areas for maintenance.

Terminal facilities. See Port Series No.5, revised 1988, Vol.2.

Operations and results during the period. A dredging contract for Perth Amboy Anchorage was awarded to Weeks Marine Inc. on 20 June 2001 for removal of all material except ledge rock lying above the plane of 35 feet and 25 feet below mean low water with placement of dredged material at the Historic area remediation site (HARS). 864,000 cubic yards of material was removed. Operations and maintenance funds in the amount of $4,826,836 was expended on this project during FY 2001.

Condition as of September 30. Work under active portion of existing project began in October 1933. Work completed consists of providing authorized project depth and widths throughout entire channel from Lower New York Bay to Upper New York Bay and providing Depths of 37 and 25 feet in Perth Amboy Anchorage. In addition to above mentioned work, construction of dike north of Shooters Island, two secondary channels 30 feet deep and 400 feet wide, one south of Shooters Island, the other in Raritan Bay connecting with Raritan River were completed under previous projects. Work remaining under existing project consists of dredging cutoff junction of Main Ship Channel to dimensions authorized by junction of Main Ship Channel to dimensions authorized by River and Harbor Acts of August 30, 1935 and May 17, 1950, dredging anchorage in vicinity of Sandy Hook.

16. NEWARK BAY, HACKENSACK AND PASSAIC RIVERS, NJ

Location. Newark Bay is an estuary about 1.25 miles wide and 6 miles long extending southerly from confluence of Hackensack and Passaic Rivers to New York and New Jersey Channels. Hackensack River rises near Haverstraw, Rockland County, NY and flows about 45 miles into Newark Bay. Passaic River rises in highlands of northeastern New Jersey and flows about 80 miles into Newark Bay. (See National Ocean Survey Charts 12333 and 12337)

Previous projects. For details, see 1926 Annual Report, pages 265 and 266; and Annual Reports for 1929, 1938, 1954, and 1976 , pages 301, 244, 124, and 2-11 respectively.

Existing project. A main channel 700 feet wide to the branch channel to Port Newark, thence 500 feet wide to a turning basin 1,300 feet long and 900 feet wide at the junction of the Hackensack and Passaic River channels, length about 4.7 miles; a maneuvering area south of the removed Central Railroad of New Jersey Bridge 2,200 feet long and 300 feet wide with depths of 38 feet in the south half and 35 feet in the north half; a combined bend cutoff and maneuvering area at the south side of the junction with Elizabeth branch channel; and widening bends at the Kill Van Kull and Port Newark Channels. (Authorized depth 35 feet except as noted above). (adopted 1966); including a triangular area east of Shooters Island with a depth of 37 feet.

At Port Newark – A branch channel 500 feet wide, leading to an inshore channel 400 feet wide 1.6 miles (adopted 1945). Authorized depth 37 feet in rock and 35 feet in soft material; a pierhead channel 200 feet wide along the east bulkhead between the Port Newark and Elizabeth branch channels, between 4,100 feet. Authorized depth 35 feet (adopted 1962).

At Elizabeth marine Terminal - A branch channel 500 feet wide, length about 1.4 miles; a pierhead channel along the east bulkhead 290 feet wide, length about 2,600 feet , southern approach area just above former Central Railroad of New Jersey Bridge enlarged for turning and maneuvering, with a maximum length of about 2,700 feet and width (between the pierhead channel and Newark Bay channel) of about 800 feet. Authorized depth 35 feet (adopted 1962).

Location cooperation. River and Harbor Act of 1954 provides local interests, furnish lands, right-of-way, the suitable spoil-disposal areas for initial construction and future maintenance; provide depths commensurate with channel depth in approaches and berths at terminals of companies which would use improvement; and hold the United States free from damages. River and Harbor Act of 1962 provides that local interests must provide lands, easements and right-of-way for maintenance and construction, hold United States free from damages, provide and maintain adequate public terminal and transfer facilities, and accomplish without cost to the United States, removal or relocation of pipelines, cable and other utilities. Assurances were furnished by Port of New York Authority and accepted June 12, 1964. Local cooperation required by previous modifications is fully complied with.

Terminal facilities. See Port Series No.5, revised 1978, Vol.2.

Operations and results during the period. A contract for the removal and disposal of all material except ledge rock lying above the plane of 40 feet and 41 feet, below mean low water was awarded on 13 August 2001 to Great Lakes Dredge & Dock Co for maintenance dredging of Elizabeth Pierhead Channel of Newark Bay. The contract was financed jointly by the Government and the Port Authority of New York and New Jersey. The PA provided the specified disposal site for the removal of approximately 41,000 cubic yards of material. Operations and maintenance funds in the amount of $1,036,853.14 in addition to $1,249,906.36 contributed by the PA was expended during FY 2001.

Condition as of September 30. Work under the active portion of the original project began June 1976 and is 100 percent complete. Work remaining to complete existing original project consists of deepening the Hackensack River channel to depths of 32 feet and 15 feet.

17. RARITAN RIVER, NJ

Location. Rises in northern-central part of New Jersey and flows generally southeasterly into Raritan Basin, between Perth Amboy and South Amboy, about 24 miles by water south of the Battery, New York City. (See National Ocean Survey Chart 12332.)

Previous Projects. For Details see Annual Reports for 1915, 1918, and 1938; pages 1777, 359 and 259 respectively.

Existing Projects. A channel 25 feet deep and 300 feet wide extending 5.8 miles from turn in New York and New Jersey Channels near Great Beds Light to Government wharf on Main Channel, widened to 600 feet for 1,000 feet of long opposite wharf to form a turning basin of same depth; thence a channel 15 feet deep and 200 feet wide 3 miles to Washington Canal, thence 10 feet deep in soft material, 11 feet deep in rock and generally 100 feet wide with widening at bends 5 miles to site of former D & R Canal entrance at New Brunswick and a South Channel 25 feet deep and 300 feet wide 0.8 mile from junction with Main Channel at Keasby to upper limit of Titanium Pigment Co. property; thence 15 feet deep and 150 feet wide 0/4 mile to dock of Middlesex County Authority; thence 10 feet deep and 150 feet wide 2 miles to a point 1,300 feet below upper junction with Main Channel at Crab Island. Plane of reference is mean low water. Mean range of tides is 5.1 feet at mouth of river and 5.6 feet at New Brunswick; mean range of spring tides 6.1 and 6.6 feet respectively. Irregular fluctuations due to winds and atmospheric pressure vary from 3.6 feet below mean low water up to 6.9 feet above mean high water. New work for completed portion of project, consisting of channels described above cost $1,237,000, exclusive of amounts expended on previous projects, including $66,000 contributed by local interests. Dredging South Channel to 10 feet deep and 150 feet wide for 1,300 feet to upper junction with Main Channel at Crab Island is inactive and excluded from foregoing description and cost estimate. (See Table 2-B for Authorizing Legislation.)

Local cooperation. Complied with except local interests must furnish spoil-disposal areas for maintenance to 25 foot channel from New York & Long Branch Railroad bridge to junction of Main and South Channels, and in south Channel to Titanium Pigment Co. Property. River and Harbor Act of 1962, provides local interests furnish spoil-disposal areas and necessary retaining dikes, bulkheads and embankments therefore, required for maintenance of improvement, and hold the United State free from damages.

Terminal Facilities. See Port series No.5, revised 1988, Vol.2.

Operations and results during the period. A continuing contract for maintenance dredging was awarded on 4 August 2000 to Great Lakes Dredge and Dock Company for the removal of 431,645 cubic yards of material with placement at the HARS. Dredging commenced on 27 August 2000 and was completed on November 5, 2001. Operations and maintenance funds in the amount of $124,741.95 was expended on this project during FY 2001. The total contractor's earnings was $2,239,702.00 and total project cost was $2,543,012.84.

Condition as of September 30. Entire existing project is about 96 percent complete. Work under active portion existing project was commenced on September 1919 and completed July 1941. A shoal along northerly channel line in vicinity of Victory Bridge was eliminated by relocation of channel in February 1959. Main Channel dredged 25 feet deep and 300 feet wide from junction with New York and New Jersey Channels to and including a turning basin of same depth opposite Government Wharf, thence 15 feet deep and 200 feet wide to mouth of Washington Canal, thence 10 to 11 feet deep and 100 feet wide to Delaware and Raritan Canal outlet locks at New Brunswick. South Channel Dredged 25 feet deep and 300 feet wide for 3,200 feet, thence 10 feet deep and 150 feet wide for 12,400 feet to within 1,300 feet of junction with Main Channel to Crab Island. Model study of Raritan River was completed in March 1952. Work remaining under existing project is dredging South Channel to 10 feet deep and 150 feet wide for 1,300 feet to upper junction with Main Channel at Crab Island.

18. SAG HARBOR, N.Y.

Location. On northern shore of south fork of Long Island, about 24 miles west of Montauk Point. (See U.S. Coast and Geodedit Survey Chart No.298.)

Existing Project. Provides for a breakwater 3,180 feet long extending northerly from Conklin Point; and for an entrance channel 3,200 feet long, 100 feet wide, and 10 feet deep at mean low water from Shelter Island Sound by way of village wharf to mooring dolphins of Standard Oil Co.; for a turning in of same depth; for and anchorage area 8 feet deep at a small anchorage area 6 feet deep at mean low water between the village wharf and Sag Harbor Yacht Club pier. Length of section included in project is about

five eighths mile. Mean tidal range, 2.5 feet; mean range of spring tides, 3 feet; irregular fluctuations due to wind and barometric pressure vary from 2 feet below mean low water up to 4.9 feet above mean high water. Cost for new work for completed project was $121,805. The entrance channel anchorages and turning basin were deauthorized in 1992.

Local Cooperation. Fully Complied with.

Terminal Facilities. There are 7 terminals with a total available berthage of 4,250 feet located in harbor. Three of these terminals with berthage of 2,700 feet, and in addition two small basins, with suitable landing facilities, are open to the public. Mooring dolphins serve to die up oil barges. One boatyard with storage space for 50 boats sand equipped with two marine railways is available for pleasure craft. Facilities are considered adequate for existing commerence.

Operations and results during the period. A continuing contract (FY00/01/02) was awarded to Newborn Construction, Inc on 30 September 2000 for rehabilitation of the breakwater. The rehabilitated structure will have similar dimensions (length, crest width and elevation) as the authorized structure, however, the bayward facing slope will be flattened from 1 on 1 on 1.5 to correspond with Corps of Engineers standard breakwater design criteria. Approximately 300 feet has been completed as of 30 September 2001. Operations and maintenance funds in the amount of $1,614,386 was expended on this project during FY 2001.

Conditions as of September 30. A continuing contract (FY00/01/02) was awarded to Newborn Construction, Inc on 30 September 2000 for rehabilitation of the breakwater. The rehabilitated structure will have similar dimensions (length, crest width and elevation) as the authorized structure, however, the bayward facing slope will be flattened from 1 on 1 on 1.5 to correspond with Corps of Engineers breakwater design. Operations and maintenance funds in the amount of $366,263.30 was expended on this project during FY 2000.

19. SHINNECOCK INLET, NY

Location. On the south shore of Long Island, about 95 miles east of the Battery, New York City. It is an opening through the sandy barrier beach, connecting Shinnecock Bay with the Atlantic Ocean. (See National Ocean Survey Chart 12352).

Existing project. Provides for a channel 10 feet deep (mlw) and 200 feet wide with a deposition basin, thence extending through the inlet to Shinnecock Bay for a distance of about 0.7 mile thence a channel 6 feet deep and 100 feet wide to the Long Island Intracoastal Waterway, a distance of about 1 mile; rehabilitation of the existing jetties and revetments. Estimate of cost for work is $22,300,000(October 91 P.L.) of which the Federal share is $16,900,000 and non-Federal share is $5,400,000.

Local cooperation. The navigation improvement will accrue both recreational and commercial benefits which result in a first cost allocation of 69 percent Federal and 31 percent non-Federal. The authorizing document also requires that local authorities; provide without cost to the United States, all lands easements, right-of-way, and suitable disposal areas for the initial work and for subsequent maintenance, when and as required; hold and save the United States free from damages due to the construction and maintenance of the project; maintain and operate the works after completion in accordance with regulations prescribed by the Secretary of the Army; provide and maintain suitable terminal facilities when and as required for the accommodation of vessels that would navigate the inlet and adjacent bays, open to all on equal terms maintain, for the duration of the economic life of the project, continued public ownership of the publicly owned shores and their administration for public use, and continued availability for public use of the privately owned shores upon which a portion of the Federal share of the costs is based. A Local Cooperation Agreement for the dredging element of the project was executed with the New York State Department of Environmental Conservation on 7 June 90. A Local Cooperation Agreement for the jetty reconstruction phase of work is pending.

Terminal facilities. Shinnecock Bay, and adjacent ocean area, constitute an important marine fishery. The public fishing facility includes three docks, one of which, the Shinnecock Fishermens Cooperative, stores and market the catch for the fishermen.

Operations and results during period. A continuing contract for rehabilitation/revetment of the Western Jetty at Shinnecock Inlet was awarded on 20 June 2001 to Seaboard Marine Corporation for $3,599,565 with the state contributing 31% of the cost. Mobilization commenced on 5 August 2001. Operations and maintenance funds in the amount of $1,453,830 was expended during FY 2001.

Condition as of September 30. The initial dredging and reconstruction of the east and west jetties have been completed.

20. SUPERVISOR OF NEW YORK HARBOR (PREVENTION OF OBSTRUCTION AND INJURIOUS DEPOSITS)

The District Engineer, New York District, was designated Supervisor of New York Harbor under the provisions of the River and Harbor Act of June 29,1888 (33U.S.C. 441-451), as amended July 12, 1952. Under this Act, the Supervisor of New York Harbor is charged with the mission of preventing the deposit of obstructive and injurious materials in New York Harbor and its adjacent and tributary waters, including Long Island Sound. The River and Harbor Act of August 18, 1894 (33 U.S.C. 452) makes it unlawful for any person or persons to engage in fishing or dredging for shellfish in any of the channels leading to and from New York Harbor, or to interfere in any way with the safe navigation of deep draft traffic; the River and Harbor Act of March 3, 1899 (33 U.S.C. 403, 407, 409) prohibits obstructions to navigable waters such as unauthorized structures, unauthorized fill, deposit of refuse, and willful or negligent abandonment of vessels. Other laws relating to the supervision of New York Harbor and its tributary water are the Clean Water Act, the Marine Protection, Research and Sanctuaries Act of 1972, the Coastal Zone Management Act of 1969, the Fish and Wildlife Act of 1956, the Federal Power Act of 1920, the National Historic Preservation Act of 1966, the Endangered Species Act of 1973, the Deepwater Port Act of 1972, the

Wild and Scenic Rivers Act and the Land and Water Conservation Fund Act.

Direct supervision of the waters under the jurisdiction of the New York District is accomplished by means of a patrol vessel whose scope of duty includes surveillance of the water front for unauthorized construction or fill, surveillance of tows enroute to dumping grounds in Atlantic Ocean to ensure that material is not illegally deposited in the waters of New York Harbor, and investigation of wrecks and abandoned vessels. In addition to the patrol vessels, whose range of patrol is limited to New York Harbor, inspectors utilizing government vehicles equipped with two- way radios patrol shorefront facilities and property. The inspectors operate out of the New York District Office. Their duties include inspection of authorized construction, fill or excavation in waterways, including wetland areas, to ensure that work is performed in accordance with the Corps permit, as well as investigation unauthorized construction activities. The inspectors also patrol all waterways in their respective area and inform the public of the Corps' role and jurisdiction as well as provide assistance in the preparation of permit application, (See Table 2-E at end of chapter).

21. RECONNAISSAANCE AND CONDITION SURVEYS (See Table 2-F at end of chapter.)

22. OTHER AUTHORIZED NAVIGATION PROJECTS (See Table 2-G at end of the chapter.)

23. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation Activities pursuant of Section 107, Public Law 645, 86th Congress as amended (Pre-Authorization). (See Table 2-N at end of chapter)

BEACH EROSION CONTROL

24. ATLANTIC COAST OF LONG ISLAND JONES INLET TO EAST ROCKAWAY INLET LONG BEACH ISLAND, NY

Location. Atlantic Coast of Long Island, in Nassau County, New York, between Jones Inlet and East Rockaway Inlet.

Existing project. The project feasibility study was conducted pursuant to a resolution by the Committee on Public Works and Transportation of the U.S. House of Representatives that was adopted October 1, 1986. Project construction was authorized by the Water Resources Development Act of 1996. The total Federal cost of the project is $304,000 and total non-Federal cost is $163,700. The authorized plan provides for storm damage protection for 7 miles of public shoreline against a 100 year storm event. Protection is provided by constructing a 110 foot wide protective beach berm at an elevation of 10 feet above sea level backed by a 25 foot wide dune system at an elevation 15 feet above sea level. The project also includes the rehabilitation of 16 existing groins and the construction of four new groins at the eastern end of the island. In addition, the project includes periodic nourishment of the restored beaches on a 5 year cycle for a period of 50 year following initial construction.

Local cooperation. The local sponsor is the New York State Department of Environmental Conservation, who funded 50 percent of the cost of the feasibility study. The Project Cooperation Agreement has not yet been negotiated, but the customary provisions are that local interests will provide, without cost to the United States, all lands, easements, and rights-of-way, including borrow areas, necessary for construction of the project, fund 35% of the total project cost, assure continued conditions of public ownership and use of the shore, maintain public use facilities open and available to all on equal terms, and maintain all improvements after completion of construction in accordance with Federal regulations for the economic life of the project.

Operations and results during the period and condition as of September 30. The Feasibility Report with Draft Environmental Impact Statement (EIS) was completed in February 1995. The Pre-construction, Engineering and Design (PED) phase was completed in September 1997. The final EIS was released for public comment in May 1998 and the record of decision was signed in December 1998. Congress added $2 million in FY 1998 and 7.5 million in FY 1999 to continue the design of the project and initiate construction. The local sponsors requested that the Corps of Engineers reanalyze the area between the proposed new groins and existing groin field in the City of Long Beach before starting construction. A study was conducted which utilized new modeling techniques that were unavailable during the feasibility study to finalize the groin field design. The final report summarizing the findings of the study was completed in March 2000. A supplement to the feasibility report will be prepared to report the modified plan and will be used as a basis for the PCA. The non-Federal sponsor is coordinating with local interests in resolving public access issues before signing the PCA.

25. EAST ROCKAWAY INLET TO ROCKAWAY INLET & JAMAICA BAY, NY

Location. Atlantic Coast of New York City, between East Rockaway and Rockaway Inlets, and the lands within and surrounding Jamaica Bay. The coastal area (about 10 miles long) is a peninsula in Queens County separating the ocean and the bay. (See National Ocean Survey Charts 12327, 12350 and 12326).

Existing project. The projects consists of nourishing 100 foot wide beach at an elevation of 10 feet above mean low wat4er from Beach 149th Street to 19th Street. Initial beach replenishment (5 contracts) previously took place between 1979 and 1988. Construction of a stone groin at Beach 149th St. was completed in September 1982. A Section 934 Report approved in February 1994, recommended continued nourishment over a nine year period. Federal participation includes first cost and periodic beach nourishment, the total estimated at $64,000,000 (Oct. 1996 P.L.) The Section 934 Report also recommended a reformulation study to evaluate alternative

methods of providing storm damage protection to the Rockaway area.

Local cooperation. Local interests have agreed to provide lands and rights-of-was, including borrow area: bear a portion of the total cost as a cash contribution; hold the United States freed from damages; maintain, during economic life of a project, continued public ownership and use of non-Federal publicly-owned shores upon which Federal participation in beach protection is bas4ed; maintain and operate all works after completion, control water pollution to the extent necessary to safeguard the health of bathers. The project cooperation agreement for additional renourishment over the nine year period was executed on 25 May 1995.

Operations and results during period and condition as of September 30. A final Environmental Impact Statement was filed with the Council of Environmental Quality on April 16, 1971. Initial beach restoration was completed in FY 1977. Contract for first increment of periodic nourishment was completed in August, 1982. Contract for construction of a stone groin at Beach 149th street was completed in September, 1982. Periodic nourishment contracts Nos. 3, 4, and 5 were completed between 1978 and 1988. Contract NO.6 was completed in 1997. The contract included beachfill placement of approximately 3 million cubic yards of sand from Beach 19th to Beach 149th Street. Contract No.7 was completed by Weeks Marine Inc. in February 2001. The contract included beachfill placement of approximately 1.01 million cubic yards of sand from beach 119 to beach 66th street and beach 40th to beach 19th street.

26. FIRE ISLAND INLET TO MONTAUK POINT, NY

Location. That portion of Atlantic Coast of Long Island in Suffolk County extending from Fire Island Inlet easterly to Montauk Point, NY about 83 miles long. This frontage comprises bout 70 percent of total ocean frontage of Long Island. Fire Island Inlet is about 50 miles by water east of the Battery, New York. (See Coast and Geodetic Charts 13209, 12354 and 12353.)

Existing project. Provides for Federal participation in improvement to prevent beach erosion and hurricane damages by; widening beaches along developed areas between Kismet and Mecox Bay, to a minimum, width 100 feet at elevation 14 feet above mean sea level; raising dunes to an elevation of 20 feet above mean sea level from Fire Island Inlet to Hither Hills State Park, at Montauk and opposite Lake Montauk Harbor; planting grass on dunes; constructing gated interior drainage structures at Mecox Bay, Sagaponack Lake, and Georgica Pond; constructing up to 50 groins, if needed; and Federal participation in cost of beach nourishment.

Local cooperation. The New York State Department of Environmental Conservation is the local cooperating agency. The State agreed to provide necessary land, rights-of-way and borrow areas, and furnish 30 percent of the project costs for the Inerim Project along the Moriches Inlet to Shinnecock Inlet reach of the authorized project. The State has also agreed to be the local sponsor for the comprehensive reformulation study of the authorized project and for interim project immediately west of Shinnecock Inlet.

Project history. One July 30, 1963, the State reflecting the desires of Suffolk County, requested the inclusion of a minimum of 13 groins in initial construction of Moriches-Shinnecock reach. Chief of Engineers concurred in inclusion of up to 13 groins. Assurances were executed by Superintendent of Public Works, State of New York, on August 14, and accepted by the District Engineer August 20, 1963. On February 5, 1964, the State requested consideration of a plan, as proposed by Suffolk County, for initial construction of 13 groins of which 11 would be in the Moriches-Shinnecock reach, and 2 in the Southampton-Beach Hampton reach vicinity of Georgica Pond, and that sandfill and dune construction be withheld for the present except for 1 mile on each side of Shinnecock Inlet. On February 27, 1964, the Chief of Engineers accepted the proposals, in part, and supplemental assurances were executed by State of New York on April 20, 1964, and accepted by District Engineer April 27, 1964, as follows: the State of New York now elects to proceed with authorized combined beach erosion control and hurricane protection project for South Shore of Long Island; that Superintendent of Public Works hereby reaffirms his assurance of August 14, 1963, relative to complete project; that State of New York, as cooperating agency, will now agree that artificial fills will be added when and to extent found necessary by the Chief of Engineers, but not earlier than 3 years after completion of groins unless both the State of New York and the Chief of Engineers mutually agree to an earlier placement; that the superintendent agrees for State of New York to contribute the full amount of any increase in Federal costs resulting from the separate construction of the groins and subsequent fill; and that the State agree that construction of the two groins in the Georgica Pond area will depend on a favorable finding, following a study by the Chief of Engineers. Study was completed July 31, 1964, recommending construction, and approved by the Chief of Engineers on September 22, 1964. By letter dated November 5, 1964, the New York State Department of Public Works confirmed that title to all properties and interests in properties necessary for constructing the 11 grains was fully vested in Suffolk County.

By letter dated December 7, 1964, the Department stated that the county had obtained easements or fee title for the parcels necessary for constructing the two groins. New York State Department of Public Works Furnished $884,600 and $830,330 required contributed funds October 30, 1964, and September 7, 1965, respectively, for construction of 11 groins in Moriches-Shinnecock reach and $439,900 on January 22, 1965, for construction of 2 groins in Georgica Pond area of the Southampton-Beach Hampton reach. The completed 2 groins and 11 groins were accepted by the New York State Department of Public Works for maintenance on May 11, 1966 and April 10, 1967 respectively.

On March 22, 1965, the State Recommended that planning priority be in the order; Southampton-Beach Hampton (Drainage structures first); Shinnecock Inlet-Southampton; Beach Hampton-Montauk Point; and Fire Island-Moriches Inlet. Planning on the drainage structures was initiated but was suspended, based on; meeting of October 28, 1965 with Georgica Pond Association and the Preservation Society of East End wherein concern was indicated

regarding the effects of the proposed drainage structure on ecology, salinity, pond level and aesthetic values; meeting with the Congressional representative, State legislators, Federal agencies and local officials held on May 26, 1966; and resolution of the Suffolk County Board of Supervisors adopted June 13, 1966 requesting advancement of the planning of the Fire Island-Moriches Inlet reach (Fire Island National Seashore). On June 16, 1967, the New York State Department of Public Works requested the following works undertaken as immediate priority items; in Moriches-Shinnecock reach, beach and dine fill at 11 groins, beach and dune fill east of the 11 groins; in Southampton-Beach Hampton reach (at East Hampton), construction of two additional groins, and the outlet structure at Georgica Pond. On March 18, 1968 the Suffolk County Board of Supervisors adopted a resolution supporting construction of 4 groin in Reach 2 (Moriches-Shinnecock) and 2 groins in Reach 4 (Southampton-Beach Hampton). On April 22, 1968 the Board adopted a more inclusive resolution authorizing participation in beach erosion and hurricane protection for the Moriches-Shinnecock reach and in the Georgica Pond area of the Southampton-Beach Hampton reach.

On December 24, 1968, the Commissioner of the New York State Conservation Department executed the second supplement to the assurances of local cooperation, which was accepted by the District Engineer on January 24, 1969. The reaffirmed previous assurances contained provisions for constructing for additional groins in an area extending 6,000 feet west from the most westerly groin in the existing leveen-groin field in the Moriches Inlet to Shinnecock Inlet Reach, and for placing beach and dune fill in this area to the full design cross section as defined in the authorized project report. A General Design Memo completed in 1980 recommended placement of sand fill in the existing 11 groin field and along 9,500 feet of shore to the west.

Condition as of September 30. Engineering and design began November 1962 and the project construction commenced in January 1965. Two groins in Reach 4; Southampton Beach Hampton, Section 3, were initiated in March, and completed in September 1964, at a total cost of $720,950 of which $382,109 were incurred against required contributed funds. Eleven groins in Reach 2: Moriches-Shinnecock, Section 2, were initiated in January 1965, and completed in October 1966 at a total cost of $2,845,656 of which $1,370,191 were incurred against required contributed funds. Initial beach fill placement for 750,000 cubic yards in Reach 2. Section 1A was completed on May 23, 1969. On August 4, 1969 work started on 4 groins and sandfill in Reach 2, section 1A and was completed November 14, 1970. 3,083 tons of stone and 1,111,000 cubic yards of sand was placed. Total cost for all Section 1A was $3,663,455 including $1,791,428 in required contributed funds. Funds in the amount of $70,000 were allotted on April 14, 1977 for initiation of the Phase 1 study in Reach 1, Fire Island Inlet to Moriches Inlet. The Final Environmental Impact Statement was filed with Environmental Protection Agency on January 28, 1978. On March 7, 1978, the Department of the Interior, supported by the other environmental resource agencies referred the Environmental Impact Statement to Council on Environmental Quality as unacceptable. On June 6, 1978 the Council agreed and recommended project reformulation.
Public meetings were held in October 1979 to delineate the scope and level of effort needed to reformulate the project. A final scooping session was held January 17, 1980 and agreement was reached between the Federal agencies although New York State had strong objections. A plan of study was completed in July 1980. However, because of New York State's inability to financially participate in construction at Westhampton Beach, reformulation was postponed.

Two breaches (new inlets) occurred in the vulnerable Westhampton area during periods of storm tides, one in Jan. 1980, just east of the Moriches Inlet, and the most recent in Dec. 1992, at the eastern end of Moriches Bay. Both breaches were filled in by contract, the last one completed in Sept. 1993, at a cost of $7 million.

In April 1993, the State provided a letter of intent to participate in an interim project for the Moriches Inlet to Shinnecock Inlet Reach. Based on this agreement in 1993 on a conceptual plan for the most critically eroded reach of the authorized project, the Westhampton Interim Project, the Reformulation Study was reinitiated.

A construction contract for the Westhampton Interim Project was awarded in May 1996 to Great Lakes Dredge & Dock Company in the amount of $16 million. The contract was substantially completed in December 1997 and included beach placement of 4 million cubic yards of sand, dune creation, fencing and grass planting, groin modifications and construction of public dune walkovers. The first renourishment was completed in February 2001 at a cost of $5 million. Renourishment is scheduled to continue at 3 year intervals until 2027.

In January 1996, a Breach Contingency Plan was approved, which provides a mechanism for rapid response to breaches along the barrier island, within the authorized project.

The Reformulation Study, which has been consistently funded since 1993, is currently underway. Data has been collected including beach profile surveys and aerial topography maps of the entire 83 mile long shoreline. Scoping for the preparation of an Environmental Impact Statement has been conducted. The study is scheduled to be completed in June 2004.

Based on requests from local, state and congressional interests, evaluations are underway fro separable interim measures immediately west of Shinnecock Inlet. Evaluations have been conducted for interim measures along Fire Island and immediately west of Shinnecock Inlet. Due to the lack of non-Federal support, efforts on the Fire Island interim project have been deferred. Recommendations to implement an interim project in the area west of Shinnecock are under review. His currently anticipated that construction could begin in the fall of 2002.

27. RARITAN BAY AND SANDY HOOK BAY, NJ

Location. Situated at the southern end of Lower New York bay between the Raritan River and Sandy Hook, in Middlesex and Monmouth Counties, NJ Shoreline area is

typified by small developing communities built upon and near salt and freshwater marshes. The study area is largely located in low elevation regions with numerous small creeks providing drainage. Low-lying residential and commercial structures in the area are experiencing flooding caused by coastal storm inundation. Problem has progressively worsened due to loss of protective beaches and increased urbanization in the area with structures susceptible to flooding from rainfall and coastal storm surges, erosion and wave attack, combined with restrictions to channel flow in the tidal creek.

Existing project. Existing Federal project was authorized by the Flood Control Act of 12 October 1962 as a dual purpose Beach Erosion Control and Hurricane Protection Project in accordance with House Document No.464, 86th Congress, Second session. This project provided for beach fill, groins, and levees for various sections of the study area. The constructed project consists of segmented sections of beach fill and levees surrounding the communities at Old Bridge Township and Keanburg and East Keanburg. A study was authorized by a resolution of the Committee on Public Works and Transportation, U.S. House of Representatives, adopted August 1, 1990. The study seeks to determine the advisability to the recommendations in the authorizing report for Raritan Bay and Sandy Hook Bay, Section 506 of WRDA 1996 authorized periodic nourishment, if determined necessary, for a period of 50 years from initiation of construction of the period of 50 years from initiation of construction of the project, in accordance with section 156 of WRDA 1976 and Section 934 of WRDA 1986.

Local cooperation. The non-Federal sponsor, NJDEP, is currently cost sharing a number of Raritan Bay and Sandy Hook Bay, NJ feasibility studies with USACE: Port Monmouth, Union Beach, and Cliffwood Beach. The non-Federal sponsor would also be required to cost share in feasibility studies for the communities of Leonardo, Highlands and Keyport in order for them to proceed. (The non-Federal sponsor also operates and maintains the existing, constructed project).

Operation and results during period, and condition as of Sept. 30. Construction of the authorized project for Old Bridge Township was initiated in 1965 and completed in 1966. Construction of the shoreline portion of the authorized project for Keansburg and East Keansburg was initiated in 1968 and completed in 1969. Construction of the closure portion (levees, closure gate and pumping station) of the authorized project for Keansburg and East Keansburg was initiated in 1970 and completed in 1973. Cliffwood Beach and Union Beach were the only portions of the authorized project that were not constructed. After construction of the closure work all of the completed works were formally turned over to the State of New Jersey in 1974.

A reconnaissance study was completed in March 1993. Subsequently, a feasibility study for Port Monmouth was initiated in February 1994, and for Union Beach and Cliffwood Beach in April 1997. In FY 2002, the final feasibility report and EIS for Port Monmouth were issued. Feasibility study activities for Union Beach and Leonardo continued. The feasibility study for Cliffwood Beach was completed by the project was not recommended for continued Federal involvement. The pre-feasibility activities for Highlands were finalized in preparation for a scheduled FY 2001 FCSA execution. Pre-feasibility activities continued for Keyport. A design agreement was executed with the NJDEP for the Raritan 934 (Keansberg, East Keansberg, Old Bridge) reevaluation study in November 1999. The study was initiated in January 2000. This reevaluation report will serve as a basis for extension of periodic nourishment for the constructed portions of the existing project for Keansberg East Keansburg and Old Bridge Township. A draft reevaluation report with environmental assessment will be available for public review in March 2002.

28. ROCKAWAY INLET TO NORTON POINT (CONEY ISLAND AREA), NY

Location. Atlantic Coast of New York City, in Brooklyn (Kings County), approximately nine miles south of the Battery, New York City.

Authorized project. Authorized by the Water Resources Development Act of 1986. The authorized plan provides for beach erosion control by restoring the Coney Island public beach up to 250 feet beyond its historic shoreline; the extension of the westerly terminal groin; construction of a terminal groin at the easterly end of the restored beach, and a fillet of beachfill from the terminal groin at W. 37th Street extending approximately 2300 feet into the community of Sea Gate. The authorized plan also provides for restoration of the beach by periodic beach nourishment. The project was modified by the Intermodel Surface Transportation and Efficiency Act (ISTEA) of 1991 to include the relocation of existing comfort and lifeguard stations at full Federal expense. The total Federal cost of the project is $106,200, and non-Federal cost is $53,500,000. The project was further modified by Section 629 of WRDA 2000, which authorized the construction of T-groins west of the West 37th Street groin.

Local cooperation. The local sponsor is the NY State Department of Environmental Conservation. In accordance with the provisions of the Project Cooperation Agreement, the sponsor will; provide without cost to the United States all lands easements, and rights-of-way including borrow areas necessary for construction of the project, hold and save the United States free from claims for damages which may result from the construction works and subsequent maintenance of the project: provide a cash contribution toward the total first cost; assure that water pollution that would affect the health of bathers will not be permitted; assure continued conditions of public ownership and use of the shore upon which the amount of Federal participation is based, during the economic life of the project; maintain public use facilities open and available to all on equal terms and maintain all improvements after completion in accordance with regulations prescribed by the Secretary of the Army, including periodic nourishment during the economic life of the project as may be required to serve the intended purpose, subject to Federal participation in the cost of periodic nourishment for the economic project life.

Operations and results during period, and condition as of September 30. Initial construction of the beach and the West 37th Street jetty was completed in January 1995. The design of the comfort and lifeguard stations was completed in 1996. Adequate funding is not available to

proceed with construction. Post-construction monitoring continued in FY '01. A study was conducted that evaluated the causes of the accelerated beach erosion downdrift of the W. 37th Street groin and the sand accumulation along Gravesend Bay the study identified alternatives for a long-term solution. The report was completed in March 1998. The report recommened three alternative solutions. A draft limited re-evaluation report that includes an environment assessment of the alternatives is underway and scheduled to be completed in FY 2002. The report will recommend the construction if T-groins as a solution to the bead erosin and sand accumulative problems.. A interim sand nourishment contract was awarded in August 2000 to provide protection to this area while a long-term solution is being developed. Construction was completed in March 2001.

29. SANDY HOOK TO BARNEGAT INLET, NJ

Location. The northern portion of the Atlantic coast of New Jersey extending from Sandy Hook southerly to Barnegat Inlet-length about 48 miles. Erosion has seriously reduced the width of most beaches in the study area with consequent exposure of the shore to storm damage. Because of this erosion of the shore the area does not provide sufficient recreational beaches for the proper accommodation of the present and prospective tributary population.

SECTION I – SEA BRIGHT TO OCEAN TOWNSHIP, NJ

Location. That portion of the Atlantic coast of New Jersey in Monmouth County extending from Sea bright southerly to Ocean Township – length about 12 miles. Sea Bright is about 30 miles by water south of the Battery, New York City.

Authorized project. The Water Resources Development Act of 1988 (PL 100-670) authorized a plan substantially in accordance with the plan recommended in the General Design Memorandum for the project dated May, 1988. In general the plan provides for beach erosion control along approximately 12 miles of coastline, extending from Sea Bright southward to Ocean Township, New Jersey, by artificial placement of sand to widen the beach berm to 100 feet at an elevation of 10 feet above mean low water with an additional 2 foot high berm cap to provide an extra increment of protection from overtopping. The project also provides for the notching of 15 existing stone groins, and periodic nourishment throughout the 50 year economic life of the project. Existing storm outfall pipes are extended beyond the new , wider beach. Total estimated Federal cost for Section 1 is $460,900,000. Total estimated non-Federal cost for all requirements of local cooperation is $248,100,000.

Local cooperation. Includes reconstruction of sea wall at Sea Bright and all lands easements, rights-of-way and drainage outfall extensions.

Operations and results during period and condition as of September 30. The Local Cooperation Agreement for Section I was executed with the State of New Jersey on July 30, 1992. Work under Contract 1A (Monmouth Beach) was completed in November 1995. Work under contract 1B (Sea Bright) was completed in October 1996. Construction on Contract 2 (Long Branch) began in May 1997 and was completed in September 1999. Plans and specifications for Contract 3 (Deal) are near completion but contract award is delayed indefinitely due to local real estate and funding issues. The first renourishment contract for Sea Bright and Monmouth Beach was awarded in August 2001.

SECTION II – ASBURY PARK TO MANASQUAN, NJ

Location. That portion of the Atlantic coast of New Jersey in Monmouth County extending from Asbury Park southerly to Manasquan – length about 9 miles.

Authorized project. Provides for Federal participation in the restoration and protection of the shore from Asbury Park to Manasquan by artificial placement of sand to widen the beach berm to a minimum width of 100 feet at an elevation of 10 feet above mean low water with a 2 foot high berm cap. The project provides for the notching of 20 existing stone groins and periodic nourishment for a period of 50 years from construction. Existing outfall pipes are extended beyond the new wider beach. Total estimated Federal cost is $473,000,000. Total estimated non-Federal costs for all requirements of local cooperation is $254,700,000.

Operations and results during period and condition as of September 30. The local cooperation agreement for Section II was executed with the State of New Jersey on August 20, 1996. The contract for the Southern Reach (Belmar to Manasquan) was awarded in March 1997. Construction began in June 1997 and was completed in August 1999. The award of the Northern Reach (Asbury Park to Avon-by-the-Sea) contract was in June 1999. Beachfill placement commenced in July 1999 and was completed in December 1999. Work on the groin notching and outfall extensions was completed in January 2001.

30. OTHER AUTHORIZED BEACH EROSION CONTROL PROJECTS

(See Table 2-H at end of chapter)

31. BEACH EROSION CONTROL WORK UNDER SPECIAL AUTHORIZATION

Beach Erosion Control activities pursuant to Section 103 Publ. Law 826, 84th Congress as amended (See Table 2-O at end of chapter).

FLOOD CONTROL

32. THE HACKENSACK MEADOWLANDS AREA, NJ

Location. The project location is the Hackensack Meadowlands River Basin in Bergen and Hudson Counties, New Jersey.

Existing project. The program was authorized by Section 324 of the Water Resources Development Act of 1992 and amended by Section 550 of the Water Resources Development Act of 1996. The program was authorized for $5,000,000. The objective of the program is to provide design and construction assistance for the development of

the Environmental Improvement Program within the Hackensack Meadowlands District of New Jersey. The intent of the program is to assist the Hackensack Meadowlands Development Commission in: tide gate improvements to control flooding in the Berry's Creek drainage basin, the mitigation, enhancement and acquisition of wetlands, the development and implementation of a system to provide for water quality monitoring and wetland control in the Hackensack Meadowlands River Basin. A hydraulic modeling study of the Hackensack River will be performed and it will also examine a proposed tide gate on Berry's Creek. The Corps of Engineers Waterways Experiment Station will be performing the modeling study.

Local cooperation. The non-Federal sponsor is the Hackensack Meadowlands Development Commission (HMDC).

Operations and results during the period and condition as of September 30. The General Management Plan, which outlines the management process for implementing the program, was completed in October 1998. A total of $2.5 million was appropriated for the program in FY 1996. The design agreement was executed between the Corps of Engineers and the HMDC in March 2000. The modeling study is expected to take two years to complete.

33. JOSEPH G. MINISH PASSAIC RIVER WATERFRONT AND HISTORIC AREA, NJ

Location. The project area is located along the west bank of the Passaic River between Bridge and Brill Streets in the City of Newark, New Jersey. This reach of the Passaic River is eroded, deteriorated and environmentally degraded due to past heavy commercial and industrial use and flooding. The most recent flooding occurred in December 1992. In light of the renewal of the commercial downtown area of Newark near the Passaic River, the project area is viewed as an environmental resource to be restored.

Authorized project. The project was authorized in the Water Resources Development Act (WRDA) of 1990 (Public Law 101-640) as an element of the Passaic River Flood Damage Reduction Project on November 28, 1999, modified in the Water Resources Development Act of 1992 (Public Law 102-580) by extending the project area, and further modified in the Water Resources Development Act of 1996 (Public Law 104-303).

The project has three phases. The first phase will provide 6,000 feet of new bulkhead, 3,200 feet of restored riverbank and wetlands. The second phase adds a 9,200 foot waterfront walkway and the third phase adds park facilities, plazas and landscaping. Links to the Arts Center, Riverbank Park, and other sites will also be provided. The project will reduce the flooding and erosion and provide environmental restoration, recreation and economic development benefits. The cost of the first phase is $37,300,000, adding the second phase increases the cost to $60,000,000 and the third phase brings the total project cost to $78,800,000. The sponsor of the first phase is the New Jersey Department of Environmental Protection and cost sharing is set a 75% Federal and 25% non-Federal. The State may reduce its share through credit provisions in WRDA 1992. The credit consists of the value of lands in the basin that the State puts into wetlands bank.

Local cooperation. Project will be operated and maintained by sponsor as each portion is completed.

Operations and results during period and condition as of September 30. Construction on the first phase started in September 1999. A formal ground breaking was held in November 1999. Additional appropriations will be required to complete the first phase. Interest is also being expressed by the city of Newark by its letter of March 7, 2000 will sponsor the second and third phases. Design efforts and a project cooperation agreement will be prepared.

34. NEW YORK CITY WATERSHED ENVIRONMENTAL ASISTANCE PROGRAM, NY

Location. The project location is the New York City Watershed, which is located within the following counties in New York State: Delaware, Greene, Schoharie, Ulster, Sullivan, Westchesteer, Putnam and Dutchess.

Existing project. The program was authorized by Section 552 of the Water Resources Development Act (WRDA) of 1996 and amended in WRDA 1999. The program was authorized for $42,500,000 in Federal funds. The objective of the program is to provide design and construction assistance for water-related environmental infrastructure and resource protection and development projects in the New York City Watershed, including projects for water supply, storage, treatment and distribution facilities and surface water resource protection and development. Twenty-eight projects have been certified by the New York State Department of Environmental Conservation (NYSDEC) and recommended for implementation. The types of projects include stream restoration, installation of sanitary sewer lines, stromwater studies, pathogen monitoring, planning and implementation of agricultural non-point source pollution reduction and watershed protection training.

Local cooperation. The non-Federal sponsor is the NYDEC. The projects will be accomplished by the local sponsors, the New York City Department of Environmental Protection, municipalities and counties.

Operations and results during the period and condition as of September 30. The General Management Plan, which outlines the management process for implementing the program, was completed in September 1998. A total of $13 million has been appropriated for the program in FY 1997 through 2002. The request for proposals, under which the proposed projects were submitted, evaluated and certified for implementation, was completed in February 1999. A total of 12 Project Cooperation Agreements have executed for 12 projects. Discussions with the local sponsors and negotiations of the PCA's for the other certified projects is underway.

35. PASSAIC RIVER BASIN, NJ & NY

Location. The Passaic Basin, comprising 787 square miles in northeastern New Jersey and 148 square miles in

southern New York State, is located in the greater New York City Metropolitan area. The Passaic River Basin is roughly elliptical in shape 26 miles long and 56 miles wide – and contains portions of Bergen, Essex, Morris, Passaic, Hudson, Somerset, Sussex and Union Counties in New Jersey. The Basin also includes parts of Orange and Rockland Counties in New York.

Previous projects. Three Federal flood control projects have been completed by the Corps of Engineers in the Passaic River Basin. A $67,400 de-snagging, debris removal, and channel restoration project was completed in 1951 along Beaver Brook and the Pequannock Township Ditch, tributaries of the Pompton River in Pequannock Township, NJ.

Along the Pompton River, a channel clearing project including shoal removal and channel restoration was implemented in the two mile reach from the Delaware, Lackawanna and Western Railroad Bridge to the Erie Railroad (Greenwood Lake Branch) Bridge. This work, in Pequannock Township, Wayne Township and Lincoln Park Borough, NJ, was completed in 1954 at a cost of $50,000.

A $1.5 million basin-wide project to improve the Flood Warning and Preparedness System was completed in 1988. The project was implemented by the Corps of Engineers in conjunction with the National Weather Service and U.S. geological Survey, The State of New Jersey is the non-Federal sponsor of the project.

Project history. U.S. Army Corps of Engineers involvement in Passaic River planning was first authorized in the Flood Control Acts of 1936. Since then reports recommending plans of action were issued in 1939, 1948, 1962, 1972, and 1973. None of these plans were implemented because they did not receive widespread public support. In 1976, Congress authorized a Phase I Advanced Engineering and Design Study in Section 101(a) of the Water Resources Development Act of 1976. Congressional Guidance on the conduct of the study was provided in House Report 94-1702. Local protection plans were completed for tributary flood damage areas along the Ramapo and Mahwah Rivers at Mahwah, NJ, and Suffern, NY, Molly Ann's Brook at Haledon, Prospect Park and Paterson, NJ, the Ramapo River at Oakland, NJ, and the Lower Saddle River in Bergen County, NJ. These projects were authorized in the Water Resources Development Act of 1986. Construction began on the Molly Ann's Brook project in 1995. The Ramapo River at Oakland project received construction funds in Fiscal year 1995 and was reauthorized in WRDA 1996 and in the Energy and Water Development Appropriate Act of 2001.

In April 1984, the Passaic Basin experienced flooding estimated to be the worst in 40 years. In June 1984, the State of New Jersey selected a dual inlet diversion tunnel plan as the preferred Bain-wide alternative for detailed plan formulation. The Phase I General Design Memorandum and draft Environmental Impact Statement, (EIS), recommending the Pompton River/Passaic Dual Inlet Tunnel Diversion Plan, were completed during FY 1998. The final EIS was filed with EPA in December 1988.

Section 10(a) 18 of the Water Resources Development Act (WRDA) 1990 (PL 101-640), as modified by section 102(p) of WRDA '92 (PL 102-580) authorizes construction of the Passaic River Flood Protection Project for the Passaic River Basin which will address both environmental and engineering objectives of the Act. The Passaic River Flood Protection Project combines diversion tunnels, levees, flood walls channel modification, and natural flood storage to provide flood protection to about 35 towns in the Passaic River Basin.

Preconstruction Engineering and Design for the Passaic River Flood Protection Project was initiated in FY 1989 and is continuing with preparation of a General Design Memorandum and Supplemental Environmental Impact Statement with accompanying project cost estimate, and update of buy-out plans. A draft report was completed in Sept. 1995.

The final report was completed in July 1996 with the State's decision to implement the natural flood storage areas at this time. Engineering and design for the Joseph G. Minish Passaic River Waterfront Part and Historic Area project element, consisting of environmental and streambank restoration measures in the city of Newark was completed in May 1996.

Condition as of September 30. Construction is nearly complete on Molly Ann's Brook. Construction is continuing on the Ramapo River at Oakland and Joseph G. Minish Passaic River and Waterfront Park. The purchases of the national flood storage areas is underway. The Saddle River, Harrison Levee Project, and Mahwah River projects are in the design phase.

36. PRESERVATION OF NATURAL FLOOD STORAGE – PASSAIC RIVER FLOOD DAMAGE REDUCTION REPORT, NJ

Location. Flooding has long been a problem in the Passaic River Basin. Since colonial times, floods have claimed lives and damaged property. The most severe flood, the "flood of record", occurred in 1903, and more recent floods in 1968, 1971, 1972, 1973, two in 1975, 1984 and 1992 were sufficiently devastating to warrant Federal Disaster declarations. The flood of 1984 resulted in the loss of three lives and caused $493 million in damages (October 1994 dollars).

Authorized project. The U.S. Army Corps of Engineers has been working on plans to reduce flooding in the basin since 1936, but no plan has yet been implemented. Congress authorized a new study of the Passaic River Basin for the State of New Jersey in the Water Resources Department Act (WRDA) of 1976 (Public Law 94-587) which led to a plan authorized in WRDA 1990 and modified in WRDA 1992. The project includes several elements (see separate fact sheet on Passaic River). The element described herein is the Preservation of Natural Flood Storage Areas which the State has asked to Corps to implement. The Preservation element includes the acquisition of 5,350 acres of natural storage areas. 5,200 acres of which are wetlands and could conceivably be developed, worsening existing flood problems. The State of New Jersey has an agreement with the Corps to continue

to protect 6,300 floodway acred, thus avoiding any secondary development. About 9,500 acres of the Central Basin are already protected as designated parkland, bringing the total of natural storage areas that would be permanently protected with the project to 21,000 acres. The Preservation element with prevent flood damages from becoming worse. It will not reduce flooding in the Passaic River Basin. The cost sharing is set a 75% Federal and 25% State. The State may reduce its share by applying credits included in the authorization.

Local cooperation. Project lands will be operated and maintained by non-Federal sponsors as each parcel is acquired.

Operations and results during period and condition as of September 30. The General Design Memorandum for the element was completed in July 1996 and the State has requested that the Corps proceed with its implementation at a cost of $21 million dollars. Currently, the Corps has completed a Real Estate Design Memorandum for purchasing the preservation lands and is negotiating a Project Cooperation Agreement with the State as a non-Federal sponsor. Funds are available to begin purchases once the Agreement is signed. Purchases started in spring 2000 and continue. Total estimated Federal cost is $19,300,000. Total non-Federal costs for all requirements of local cooperation is $1,700,000.

37. RAMAPO RIVER AT MAHWAH, NEW JERSY & SUFFERN, NY

Location. Flooding has occurred frequently on the Ramapo River, with flood events in 1968, 1971, 1973, 1977, 1979, 1980, 1983, 1984, 1987, 1996, and 1999. The 1977 and 1984 floods were the most severe causing extensive damages to the project area. Tropical Storm Floyd in September 1999 also cause significant damage.

Authorized project. The Ramapo River and Mahwah Rivers Flood Control Project is authorized for construction under the Water Resources Development Act (WRDA) of 1986 (Public Law 99-662). The authorized project involves the construction of features for flood protection along the Ramapo and Mahwah Rivers in Mahwah, NJ and Suffern, NY. The authorized plan for flood damage reduction includes channel modification to approximately 13,000 feet of the Ramapo River, Mahwah River, and Masonicus Brook. The modifications would include the widening and deepening of the channels, sheet pile walls, and bridge modifications. The project will provide protection to residential, commercial, and industrial developments in Suffern and in Mahwah.

Local Cooperation. The non-Federal sponsors, New York and New Jersey will sign a project design agreement summer 2002. Assuming a favorable project is recommended and implemented, a construction project cooperation agreement would be executed and upon completion of constuction the project would be turned over to the non-Federal sponsors for operation and maintenance. The sponsors will also provide all lands required for the project.

Condition as of September 30. The project design memorandum was completed and approved in September 1987. Plans and specifications were substantially complete in 1990. Construction funds were appropriated, but work was never initiated due to the lack of project cooperation agreements. After the flooding in 1999, the involved States, counties, and towns expressed interest in resuming the project. Letters of support from New York and New Jersey documented the interest and requested an update of the project to determine whether further interest is warranted. Funds were appropriated in Fiscal Year 2001 and coordination with the interested parties was initiated. A project management plan is currently being developed and a design agreement for pre-construction and engineering and design activities will be negotiated with the New Jersey Department of Environmental Protection and New York State Department of Environmental Conservation. The design agreement will allow the resumption of engineering and design efforts to update the project and potentially support a construction project.

38. RAMAPO RIVER AT OAKLAND, NJ

Location. The project involves the construction of features for flood protection along the Ramapo River from Pompton Lake in Wayne Township and the Borough of Pompton Lakes, upstream through the Borough of Oakland to West Oakland Avenue, a distance of 3.3 miles.

The principal problem along the Rampo River is flooding caused by backwater effect produced by the Pompton Lake Dam, the hydraulic construction produced by bridges crossing the river, and insufficient channel capacity. Flooding has occurred frequently, with the most recent events in 1968, 1970, 1971, 1973, 1977, 1978, 1979, 1980, 1983, 1984, 1987, 1993 and as recently as January of last year.

Authorized project. The Ramapo River was studied as part of the Passaic River Basin Phase I Advanced Engineering and Design Study which was authorized by the Water Resources Development Act of 1976 (Public Law 94-587, October 22, 1976). Congressional guidance for the for the conduct of the study is included in House of Representatives report 94-1702. The study was authorized for construction under the Water Resources Development Act (WRDA) of 1986 (Public Law 99-62) and reauthorized in WRDA 1996 (PL 104-303). The sponsor is the New Jersey Department of Environmental Protection. The authorized plan for flood damage reduction along the study area includes channel modification of 5,800 feet of the Ramapo River. The authorized plan also calls for the installation of flood control gates at the existing Pompton Lake Dam. Mitigation for the environmental impacts of the plan include the creation of a five acre wetland in Potash Lake. The recommended plan would provide a consistent 40 year level of protection to the project area. The plan has an estimated cost of $13,100,000. The cost is shared by the Federal Government (75%) and the State (25%). The State share includes the cost for all lands easements, and right-of-way as well as a cash contribution. The State share may be reduced through the use of credits available for Passaic River Basin projects\

Local cooperation. Non-Federal sponsor will operate and maintain project once construction is complete and project is turned-over to sponsor.

Operations and results during period and condition as of September 30. Engineering and design commenced

in October 1987. The final general Design Memorandum was completed in May 1994 and approved in July 1994. Permits were issued in January 1999. The Project Cooperation Agreement was executed in April 1999. Ongoing channel modification is to be completed in the summer 2002. This construction will be followed by the advertisement at the work to install the flood control gates. Total estimated Federal cost is $11,700,000. Total estimated non-Federal costs for all requirements of local cooperation is $1,400,000.

39. RARITAN RIVER BASIN GREEN BROOK SUB-BASIN, NJ

Location. The Green Brook Basin lies in central New Jersey within the counties of Somerset, Middlesex and Union and is one of the major tributaries in the Raritan River Basin. The Green Brook, which originates in the Watchung Mountains, has a 65 square mile watershed. The bell shaped basin widens makedly as Green Brook flows southwesterly to its mouth at the Raritan River.

Project History. The Green Brook Flood Control Project is the result of efforts over the past three decades by the U.S. Army Corps of Engineers, other Federal agencies, state and local agencies, civic organizations and the general public. In 1968, a reconnaissance investigation was conducted, under the Corps of Engineers Continuing Authority Program for small projects, for Ambrose, Bound and Bonygutt Brooks. The resulting report recommended further study all three locations. Detailed project reports concluded that individual flood protection projects were not economically feasible at any of the locations. Subsequently, record floods occurred in 1971 and again in 1973, causing catastrophic damage throughout the basin. As a result of the devastating events, the need for basin-wide studies of the entire Green Brook Basin was apparent. The Corps of Engineers, North Atlantic Division (NAD) issued the *Feasibility Report for Flood Control, Green Brook Sub-Basin*, dated August 1980. The plan recommended in this report consisted of a system of levees and floodwalls to provide protection against a 150 year flood in the lower portion of the Green Brook Basin only. A more comprehensive, basin-wide solution would have also extended 150 year protection to the upper and Stony Brook portions of the basin. The Board of Engineers for Rovers and Harbors (BERH) reviewed the NAD report and issued its report on 16 March 1981, in which they endorsed all plan formulation decisions in the 1980 Feasibility Report. However, the BERH also stated the "the recommended 150 year level of protection is inadequate for this highly urbanized floodplain". To avoid catastrophic consequences of levee overtopping, the BERH recommended protection to 500 year level. The Chief of Engineers Report dated 4 September 1981. In February 1984, the Secretary of the Army expressed the administration's views in his letter transmitting the report to Congress in which he recommended that the August 1980 report should be authorized.

The Water Resources Act of 1986 authorized construction of a project, providing protection in all three portions of the Green Brook Basin. Section 401a of the Water Resources Development Act (WRDA) 1986 authorized construction of the Green Brook Flood Control Project for the Green Brook Sub-basin, which will address both environmental and engineering objectives of the Act. The Green Brook Flood Control Project combines levees, floodwalls, channel modification, flood proofing, and natural flood storage to provide flood protection to about 13 municipalities in the Green Brook Sub-basin.

On the basis of this authorization, funds were budgeted and appropriated for preconstruction engineering and design. Surveying, mapping and other studies necessary to provide the basis for actual construction commenced toward the end of 1986. However, delays wee incurred due to conflict between the needs and desires of the non-Federal sponsor and national economic development which affected the quest for a comprehensible implementable plan. In January 1994, a general reevaluation study was initiated. Unfortunately, the area was hit with another record storm in September 1996 causing more damages, the draft General Reevaluation Report was issued in December 1996 and opened for public comment for the period between January 7 and March 7, 1997. As a result comments expressed with significant concerns over the flood protection plan proposed for the upper portion of the basin, the Corps and the NJDEP agree to defer action on the flood protection plan for the upper portion of the basin. The Final General Reevaluation Report and Supplemental Environmental Impact Statement was approved in May 1997 with the support of the New Jersey Department of Environmental Protection (NJDEP) who is the non-Federal sponsor for the project. In FY 1998, an Upper Basin Task Force (UBTF) was formulated to develop potential plan alternatives to the upper basin. The UBTF released their final report on November 12, 1998. In September 1999, again the area saw another record storm which not only caused catastrophic damage but resulted in 3 deaths. The Corps of Engineers, New York District released a Project Study Plan (PSP) to determine the feasibility of the alternatives discussed in the UBTF report in June 2000.

Preconstruction Engineering and Design for the Green Brook Flood Control Project was initiated in FY 1997 and the Project Cooperation Agreement (PCA) between the NJDEP and the Federal Government was executed on June 24, 1999.

Condition as of September 30. The first construction contract was awarded on September 29, 2000 to begin work in the lower portion of the basin which includes a temporary bridge demolition and replacement of a bridge and demolition of 3 houses on East Street of Bound Brook. As a result of the 1999 storm event, a resolution was submitted by Middlesex Borough in October 1999 requesting buyouts along Prospect Place and Raritan Avenue. In August 2001, the Federal Emergency Management Agency (FEMA) purchased a houses on Raritan Avenue under their Hazard Mitigation Program and are scheduled to be demolished by November 2001. The Corps of Engineers, New York District reviewed alternatives to the proposed flood proofing measures for the remaining structures and determined that the Locally Preferred Plan (LPP) of voluntary buyouts is the recommended alternative. Act language to authorize this project change is expected in WRDA 2002. Offers for voluntary buyouts along Prospect Place in Middlesex

Borough is scheduled to begin 2nd quarter 2002. In addition, the levee system in the Borough of Bound Brook was reanalyzed, and construction is scheduled to begin 3rd quarter 2002.

40. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Inspections of the following completed flood control works and beach erosion and hurricane protection projects were performed to determine the extent of compliance by local interests with operation and maintenance requirements.

New England Inspection Date:

Adams, MA – Hoosie River	Sept. 00
Bennington, VT – Roaring Branch, Walloomsac River	Oct. 99
East Barre Dam, VT – Jail Branch Winooski River	Sept. 00
Montpelier Dam, VT – Winooski River	Sept. 00
North Adams, MA – Hoosie River	Sept. 00
Richford, VT – Missiquoi River	Sept. 00
Waterbury Dam, VT – Little River	Sept. 00
Wrightsville Dam, VT – North Branch Winooski River	Sept. 00

NY – NJ Areas

*E. Rockaway Inlet to Rockaway Inlet	Oct. 99
Elizabeth, NJ – Elizabeth River	NI
*Fire Is. Inlet to Montauk Rt., NY	Oct. 99
Herkimer, NY – Bellinger Brook & Mohawk River	Oct. 99
Holland Patent, NY – Thompson Creek	Oct. 99
Hoosic Falls, NY – Hoosic River	Oct. 99
Kingston, NY – Esopus Creek	Sept. 00
North Ellenville, NY – Beer & Fantine Kills & Snadburg Creek	Sept. 00
Rahway, NJ – Rahway River, S.Branch Rahway River	NI
*Raritan Bay & Sandy Hook Bay, NJ Old Bridge, Keansburg & Middletown, NJ	NI
Rosendale, NY – Roundout Creek	Sept.00
So. Amsterdam, NY – S. Chuctanunda Creek & Mohawk River	Oct. 99
S. Orange NJ – E. Branch, Rahway River	NI
Yonkers, NY – Saw Mill River	Oct. 98
Chappaqua, NY – Saw Mill River	Oct. 99
Ardsley, NY – Saw Mill River	Oct. 99
Sandy Hook to Barnagat Inlet, NJ	NI
*Beach Erosion & Hurricane Protection Projects	NI

(NI= Not Inspected FY 1997)

41. OTHER AUTHORIZED FLOOD CONTROL PROJECT

(See Table 2-1 at end of chapter.)

42. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood Control activities pursuant to Section 205, Public Law 858, 80th Cong. As amended (Pre-authorization) See Table 2-P at end of chapter).

Chapter 1 Natural Disaster and Emergency Flood Control Activities. **Pursuant to Public Law 84-99 and antecedent legislation provides for disaster preparedness, emergency operation, rehabilitation, advance measures, emergency water, and drought assistance**.

Under disaster preparedness, the New York district initiated revisions to emergency response plans to include lessons learned from previous disasters, attended meetings and seminars dealing with emergency response planning and purchased supplies and equipment to maintain its' flood fight and response capability.

Under emergency operations, the New York District conducted field investigations, provided technical assistance and sandbags to local and county government in response to flooding events.

In response to Presidential disaster declarations under P.L. 93-288 the New York District received mission assignment from the Federal Emergency Management Agency (FEMA) for generator repair and servicing during the Jan. 1998 NY ice storm and environmental technical assistance during the June 1998 flash flooding in NY.

GENERAL INVESTIGATIONS

43. SURVEYS

(See Table 2-J at end of chapter.)

44. COLLECTION AND STUDY OF BASIC DATA

Costs for the period of $143,839 for flood plain management services are set forth in Table 2-L at the end of chapter.

45. DEAUTHORIZED PROJECTS

Projects having all, or inactive or uncompleted portions deauthorized by Congressional Action pursuant to Water Resources Development Acts (See Table 2-M at end of chapter.)

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001

TABLE 2-A COST AND FINANCIAL STATEMENT

Projects	Funding	FY 98	FY 99	FY 00	FY 01	Total Cost to Sept. 30,2001
1. Aquatic Plant	New Work					
Control	Approp.			311,000	300,000	2941183[1]
	Cost	145,377	31,890	311,000	298,664	2939185[2]
2. Arthur Kill Channel Howland	New Work					
Hook, Marine Terminal, NY & NJ	Approp.				800,000	800,000
	Cost				716,187	5,900,000
3. Burlington Harbor, VT	New Work					4,633,894
	Approp.					706,414
	Cost					706,414
	Maint.					
	Approp.		706,414		2,138,850	
	Rehabilitation		706,414		2,123,392	
4. East Rockaway Inlet, NY	Approp.				2,123,392	
	Cost					3,563,850
	New Work					3,548,525
	Approp.					83,969
	Cost	463,000	2,734,000	2,052,000	2,236,562	533,334
	Maint.	479,000	2,733,537	2,067,751	2,230,106	20,916,122
5. Fire Island to	Approp.					20,922,219
Jones Inlet, NY	Cost	268,000	3,605,000	4,239,734	489,000	
	New Work	158,315	710,388	6,381,366	-19,321	31,501,862
	Approp.					30,965,462
	Cost	162,903	724,117	2,331,838	147,269	
	Maint.	-180,355	695,277	2,331,821	147,268	25,657,371
6. Glen Cove Creek, NY	Approp.					25,672,753
	Cost					
	New Work					165,882
	Approp.					165,882
	Cost			694,599	1,300,000	
	Maint.			694,598	1,298,939	2,237,358
7. Hudson River, NY	Approp.					2,236,296
	Cost					
	New Work					4424980[4,5]
	Approp.					44,249,865
	Cost	1,895,000	3,689,000	2,655,000	3,632,774	
	Maint.	1,713,221	3,776,614	3,776,614	3,548,154	67237224[6,7]
8. Hudson River, NY	Approp.					66,987,852
(New York City to	Cost	8,700,000	290,000	-	-	
Waterford: Athens Channel)	New Work	30,914	192,216	32,264	396,043	9,299,000
9. Jamaica Bay, NY	Approp.					664,174
	Cost					
	New Work					4,545,750
	Approp.					4,454,750
	Cost	395,000	1,455,000	1,455,000	1,286,968	
	Maint.	256,205	1,494,628	1,494,628	1,286,475	15,081,718
10. Kill Van Kull-Newark	Approp.					15,058,161
Bay, NY & NJ	Cost	1,299,000	29,096,000	28,580,000	46,216,000	
	New Work	1,094,175	10,398,616	35,858,098	45,477,510	372633959[8]
11. Narrows of Lake	Approp.					359,216,533
Champlain, NY & VT	Cost					
	New Work					681,811
	Approp.					681811[9]
	Cost	46,000	96,275	93,000	794,900	
	Maint.	28,839	93,226	93,784	767,837	2,544,265
	Approp.					2,437,633

NEW YORK, NY DISTRICT

TABLE 2-A COST AND FINANCIAL STATEMENT

Projects	Funding	FY 98	FY 99	FY 00	FY 01	Total Cost to Sept. 30,2001
12. New York Harbor and	New Work					
Adjacent Channels	Approp.	563,000	649,000	715,000	580,000	4,303,849
	Cost	463,110	631,652	538,514	713,009	3,084,239
13. New York Harbor-	New Work					
Collection and	Approp.		200,000	358,000	-	46,099,000
Removal of Drift	Cost	456,393	3,277,738	228,592	42,729	45,956,996
	Maint.					
	Approp.	4,623,000	4,810,000	4,855,000	5,659,184	124,155,434
	Cost	4,570,944	4,859,837	4,855,000	5,659,184	119,422,117
14. New York Harbor-	New Work					
Entrance Channels &	Approp.					45,009,710[11]
Anchorage Areas	Cost					45,009,710[11]
	Maint.					
	Approp.	8,544,000	3,260,000	3,825,000	10,510,454	121,478,624
	Cost	8,442,420	3,437,544	3,852,541	10,357,740	121,320,817
16. New York and	New Work					
New Jersy Channels	Approp.					73,052,435
	Cost					73,052,435
	Maint.				4,837,549	
	Approp.	44,394,000	985,000	656,000	4,837,547	52,386,639
	Cost	44,469,574	999,636	668,153	4,826,836	52,418,148
17. Raritan River, NJ	New Work					
	Approp.					1,551,470
	Cost					1,551,470
	Maint.					
	Approp.			2,418,000	124,742	18,553,011
	Cost			2,418,271	124,742	18,553,011
18. Sag Harbor, NY	New Work					
	Approp.					121,805
	Cost					121,805
	Maint.					
	Approp.			366,264	1,614,559	1,992,532
	Cost			366,264	1,614,386	1,992,359
19. Shinnelock Inlet, NY	New Work					
	Approp.					14,863,000
	Cost	42,370				14,823,090
	Maint.					
	Approp.	2,284,000	43,546	100,470	1,455,699	5,364,715
	Cost	2,234,810	43,679	105,510	1,453,835	5,318,740
20. Supervisor of New	New Work					
York Harbor	Approp.	747,000	740,000	868,922	737,409	38,866,291
	Cost	729,765	763,192	868,908	737,423	38,864,369
24. Long Beach Island, NY	New Work					
	Approp.	859,040	884,000	-	-	2,782,040
	Cost	466,632	651,110	194,807	115,031	2,385,052
25. East Rockaway Inlet	New Work					
to Rockaway Inlet	Approp.	563,000	569,000	1,147,000	4,088,000	58,001,000[12]
and Jamaica Bay, NY	Cost	234,115	884,663	1,421,411	3,707,862	54,996,573
26. Fire Island Inlet to	New Work					
Montauk Point, NY	Approp.	4,510,000	3,591,000	5,065,000	7,964,000	71,508,439[13]
	Cost	7,607,472	3,697,967	3,906,736	9,483,614	70,854,592
	Maint.					
	Approp.					113,970
	Cost					143,753
27. Raritan Bay and	New Work					
Sandy Hook Bay, NJ	Approp.	188,000	139,000	368,000	212,500	1,673,500
	Cost	25,932	17,884	178,880	119,975	1,104,074

ABLE 2-A COST AND FINANCIAL STATEMENT

Projects	Funding	FY 98	FY 99	FY 00	FY 01	Total Cost to Sept. 30,2001
8. Rockaway Inlet to	New Work					
Norton Point (Coney	Approp.	1,639,000	1,644,000	957,000	419,000	22,660,765
Island), NY	Cost	715,734	703,188	733,296	2,275,496	21,708,588[15]
9. Sandy Hook to	New Work					
Bamegat Inlet, NJ	Approp.	22,696,000	21,007,000	17,287,648	8,749,000	166,045,221
	Cost	28,394,251	23,399,243	18,007,299	7,016,396	159,835,728[16]
2. Hackensack	New Work					
Meadowlands, NJ	Approp.	-	-	487,500	212,500	2,712,500
	Cost	21,252	47,875	300,013	119,975	698,816
3. Joseph G. Minish	New Work					
Waterfront Park, NJ	Approp.	3,000,000	3,800,000	5,887,000	194,000	12,981,000
	Cost	594,915	289,160	2,518,295	245,410	3,978,945
4. New York City	New Work					
Watershed, NY	Approp.	96,000	930,000	-	-	2,026,000
	Cost	57,765	109,242	762,265	396,043	1,376,971
5. Passaic Mainstem, NJ	New Work					
	Approp.	-	-	-	-	63,459,669
	Cost	6,975	84,734	71,817	5,112	63,100,600
6. Preservation of	New Work					
Natural Storage	Approp.	50,000	930,000	1,510,000	1,825,000	4,315,000
Areas, NJ	Cost	136,616	71,798	507,541	2,267,791	3,088,490
7. Ramapo & Mahwah, NJ &	New Work					
Suffern, NY	Approp.				29,000	1,263,460
	Cost			4,203	17,747	1,230,317
8. Ramapo at Oakland	New Work					
NJ	Approp.	467,000	2,290,000	409,000	2,349,500	6,923,500
	Cost	288,073	216,021	342,987	3,284,767	5,576,110
9. Raritan River Basin	New Work					
Green Brook	Approp.	2,911,000	2,706,000	4,930,420	3,449,000	37,996,420
Sub-basin	Cost	2,157,946	2,244,279	2,227,640	3,394,693	34,026,042

. Of which $12,500 is for North Atlantic Division Accounts.

. Of which $12,127 is for North Atlantic Division Accounts.

. Excludes $90,190 for new work expended from contributed funds. Additional NY State Funds were $200,000 in 1990, $581,000 in 1991, $611,574 in 1996, $2,093,194 in 1997, $1,280,000 in 1999, and $1,468,734 in 2000.

. Includes $5,112,694 for new work for previous project.

. Includes $238,350 for new work expended from public works funds and $311,461 emergency relief funds. Excludes $81,373 expended from contributed funds.

. Excludes $454,273 expended between August 18, 1915 and June 30, 1935, for operation and care of lock and dam at Troy, NY, under permanent indefinite appropriation. Excludes $23,735 reimbursement for repairs to Troy Lock.

. Includes $346,797 for maintenance for previous project.

. Includes $103,991,000 from contributed funds.

. Includes $115,000 for new work for previous projects.

10. Includes $2,491,206 expended to date for construction of land-based overfire air pit incinerator ($1,493,393 in maintenance funds and $997,813 in O & M funds.)

11. Includes $116,530 applied to removing wrecks authorized by acts prior to adoption of existing projects.

12. Includes $24,827,035 from contributed funds.

13. Includes $10,650,000 contributed funds.

14. Includes $212,500 from contributed funds.

15. Includes $6,900,000 from contributed funds.

16. Includes $46,185,000 from contributed funds.

17. Includes $487,500 from contributed funds.

18. Includes $4,072,420 from contributed funds.

TABLE 2-B **NEW YORK, NY DISTRICT AUTHORIZING LEGISLATION**

Act	Work Authorized	Document
	AQUATIC PLANT CONTROL (See Section 1 of Text)	
River and Harbor Act of 1959	Control and progressive eradication of ovnoxious Aquatic Plant growths	H.Doc.37, 85th Cong., 1st sess.
Section 104 and Harbor Act of 1958	Provided that all research and planning cost to be borne fully by the United States	
Section 302 River and Harbor Act of 1965	Modified project to include control of waterchestnut	
	Arthur Kill Channel, Howland Hook, Marine Terminal, NY & NJ (See Section 2 of Text)	
River and Harbor Act, 23 June 1874	Original Project for a "channel between Staten Island and New Jersey:, 150 feet wide, 16 feet deep.	Report of the Chief of Engineers, 1873, S.ex. 52, 42nd Cong., 3rd Session
River and Harbor Act, 14 August 1876	Indicated that improvements recommended in 1873 and actually commenced in 1874 were no longer necessary and that a Channel 11 feet deep and 500 feet wide would serve tows and sailing vessels most expeditiouly.	Report of the Chief of Engineers, 1876, H. ex. 44, 44th Cong., 1st Session
River and Harbor Act, 13 June 1902	Recommended a channel between New York and New Jersey passing south of Shooters Island, 21 feet deep and 300 feet wide except at turns where width would be 400 feet.	H.D. 393, 56th Cong., 1st Session
River and Harbor Act, 25 June 1910	Authorized channel north of Shooters Island 1 mile long, 300 feet wide, 16 feet deep.	H.D. 337, 59th Cong., 2nd Session
River and Harbor Act, 22 September 1922	The original project for "New York and New Jersey Channels", provided for a channel 400 feet wide and 30 feet deep.	H.K. 653, 66th Cong., 2nd Session
River and Harbor Act, 30 August 1935	Provided for present project depth of 35 feet and channel 600-800 feet wide.	H.K. 133, 74th Cong., 1st Session
None	Feasibility study for the rehabilitation of the dike north of Shooters Island initiated 1960.	District Engineers, April 1964
River and Harbor Act, 27 October 1965	Provided for widening and deepening entrance to Kill Van Kull at Robbin's Reef at a 35 foot depth.	H.D. 108 89th Cong., 1st Session
None	Investigation into the effects of the removal of Shooters Island and shore modifications on tides, currents, & shoaling in the Kill channels. Study noted no detrimental effects.	Waterways Experiment Station U.S. Army Corps., Dec 1967
None	Investigation into deepening and widening NY anad NJ Channels in response to House Committee on Public Works Resolutions 30 March 1995, and 27 June 1956 resulted in negative reports.	District Engineer, New York, 9/21/73
Chief of Engineers, 28 May 1975 under discretionary authority contained in H.D. 494. 89th Cong. 2nd Session	Investigation into the feasibility of deepening the triangular area just east of Shooters Island to 35 feet MLW. Initiated in 1974. Built in 1976	District Engineer, New York, 1975
None	Investigation into the impacts caused by the removal of Shooters Island; noted a lack of economic justification and significant potential environmental impacts. Chief of Engineers recommended 6 August 1979 that no Federal funds be provided.	District Engineer, Feb 1979

TABLE 2-B AUTHORIZING LEGISLATION

Act	Work Authorized	Document
None	Investigation into deepening and widening Kill Van Kull and Newark Bay in response to House Committee on Public Works Resolution dated 14 June 1972. Currently under review by the Office of Management and Budget.	District Engineer, July 1980
House Committee on Public Works and Transportation Resolution, 9 May 1979	Review the reports of the Chief of Engineers on NY and NJ channels, contained in HD 133, 74th Cong., 1st Sess., and HD108, 89th Cong., 1st Sess. To determine the feasibility of deepening and easing the bends of NY and NJ Channels from deep water in Upper NY Harbor westward to Howland Hook Marine Terminal, Howland Hook, Staten Island, NY, and creating a turing basin to serve that facility; all to accommodate deeper draft and otherwise larger ongoing general cargo and container vessels.	Final Feasibility Report, Arthur Kill Channel, Howland Hook Marine Terminal, NY and NJ, dated March 1986
Water Resources Development Act of 1986 (PL 99-662), Sec. 202(b)	AK channel deepening to 41' to Howland Hook Terminal, and to 40' to Exxon Bayway and Gulfport facilities, as per the project for navigation, Report of BERH dated 31 March 1986.	
Water Resources Development Act of 1996 (PL 1014-303), Sec.301(b)(11)	Modified WRDA 86 to authorize AK channel deepening to a depth of not to exceed 45 feet, at a cost of $83,000,000.	Final Limited Reevaluation Report, Arthur Kill Channel, Howland Hook Marine Terminal, NY and NJ, dated Dec. 1997
Water Resources Development Act of 1999 (PL 106-53), Sec. 338	Modified WRDA 86 and WRDA 96 to authorize AK channel deepening, at a total cost of $315,700,000.	Addendum to the Final Limited Reevalutation Report, Arthur Kill Channel, Howland Hook Marine Terminal, NY and NJ, dated May 2001.
	BURLINGTON HARBOR, VT (See Section 3 of Text)	
July 4, 1836	Construction of first 1,000 feet of breakwater	H.Doc.131, 23rd Cong., 1st sess.
June 23, 1866	Extension of 1,500 feet to breakwater	H.Ex.Doc. 56, 39th Cong., 2nd sess.
March 3, 1875	Extension of 2,000 feet to breakwater Chief of Engineers authorized extension Southerly of 1,000 feet and northerly 500 feet	Annual Report, 1874, p.274 Annual Report, 1887, p.2407
July 3, 1930	**EAST ROCKAWAY INLET, NY (See Section 4 of Text)** Channel 12 feet deep and 250 feet wide, and a jetty	H.Doc. 19, 71st Cong., 1st sess.
	FIRE ISLAND TO JONES INLET, NY (See Section 5 of Text)	
August 26, 1937	construction of jetty.	Rivers & Harbors Committee Doc.33, 75th Cong., 1st sess.
May 17, 1950	Channel 10 feet deep	H.Doc.762, 80th Cong., 2nd sess.
1958 River & Harbor Act	Three dredging operations with sand serving as nourishment to the beaches westerly of the inlet	H.Doc.411, 84th Cong., 2nd sess.
1962 River & Harbor Act	Extension of existing jetty, a littoral reservoir, a navigation channel and dikes, sand, deposit on westerly beaches	H.Doc.115, 89th Cong., 1st sess.
March 1988	14 foot channel with sand placed along Gilgo Beach	
March 3, 1925	**GLEN COVE CREEK (See Section 6 of Text)** Channel 8 feet deep and 100 feet wide	H.Doc.207, 68th Cong., 1st sess.

TABLE 2-B

NEW YORK, NY DISTRICT
AUTHORIZING LEGISLATION

Act	Work Authorized	Document
	HUDSON RIVER, NY (See Section 7of Text)	
June 25, 1910	Channel 12 feet deep from Hudson to Waterford, remove State Lock and dam at Troy and construct a new lock and dam	H.Doc. 719, 61st Cong., 2nd sess.
March 3, 1925	Channel 27 feet deep from Hudson to Albany, NY	H.Doc. 350, 68th Cong., 1st sess.
July 3, 1930	Channel 27 feet below Hudson	H.Doc. 210, 70th Cong., 1st sess.
July 1, 1935	Operation and care of lock and dam at Troy were included in project.	
August 30, 1935	Relocation of 12 foot channel between Troy and Waterford	S.Doc. 155,72nd Cong., 2nd sess.
June 20, 1938	Deepen channel between Albany and Waterford to 14 feet with no change in depths for harbors in front of Albany & Troy.	H.Doc. 572, 75th Cong., 3rd sess.
September 3, 1954	Deepen channel between New York City and Albany to 32 feet and construct a turning basin and 2 anchorages.	H.Doc.228, 83rd Cong., 1st sess.
P.L. 89-72	Mooring facilities	
	Note: The 12 and 27 foot classification have been deauthorized.	
	HUDSON RIVER AT ATHENS, NY (See Section 8 of Text)	
September, 1996 Rivers and WRDA, 1997	The District will coordinate the assessment report to address the need for additional formulation and economic analysis to determine economic viability.	Rivers & Harbors Act of 1910 modified by Section 110 of the Energy and Water Development Appropriations Act, 1997
	JAMAICA BAY, NY (see Section 9 of test)	
June 25,1910 March 2, 1945	Construction of 1 jetty. Interior channel along west shore of bay, 18 and 12 feet deep; and I riprap jetty all in lieu of work heretofore authorized. Modifird conditions of local cooperation.	H.Doc 1488, 72nd Cong., 2nd sess. H.Doc 700, 76th Cong.,
May, 17 7950	Channel 15 feel in Mott Basin including its 2 branches	3rd sess. H.Doc665, 80th Cong.,
	KILL VAN KULL-NEW ARK BAY, NJ & NY (see section 10 of text)	
FY 1985 Supplemental Appropriations Act.	Deepening existing 35 foot channels in increments to 40 feet and then 45 feet.	PL 99-662 PL 91-611
	NARROW OF LAKE CHAMPLAIN, NY, & VT (see Section 11 of text)	
August 8, 1917	Channel 12 feet deep and 150 wide	Rivers & Harbor Committee
	NEW YORK HARBOR AND ADJACENT CHANNELS (PORT JERSEY), NY (See Section 12 of text)	
WRDA 1986	Deepening existing 35 foot channel and turning basin	PL 99-662
	NEW YORK HARBOR COLLECTON AND REMOVAL OF DRIFT, NY AND NJ (See Section 13 of Text)	
March 14, 1915	Allotment from appropriations made for New York Harbor and its immediate tributaries may be used for collection and removal of drift in these waterways.	
July 3, 1930 December 31, 1970	Carrying on this work as a separate and distinct project. Increase scope of project to include removal and disposal of derelict vessels, some deteriorated shore structures and debris along shores; and the repair of other shore structures; all subject to approval by Secretary of the Army and the President.	P.L. 91-611, 91st Cong., H.R. 1987

TABLE 2-B AUTHORIZING LEGISLATION

Act	Work Authorized	Document
March 7, 1974	Removal and disposal of derelict vessels, some deteriorated shore Structures and debris along shores and the repair of other shore Structures.	P.L. 93-251, 93rd Cong.
	NEW YORK HARBOR, ENTRANCE CHANNELS AND ANCHORAGE AREAS (See Section 14 of Text)	
July 5, 1884	Main-Ship-Bayside-Gedney to 30 feet deep for width of 1,000 feet (Dimensions fixed by Secretary of War, December 27, 1886 by authority of Act of August 5, 1886).	Annual Reports 1887, p.62 and 1888, p.63
March 3, 1899	Ambrose Channel (East Channel).	H.Doc-159, 55th Cong., 2nd sess.
June 25, 1910	Maintenance of entrance channel under I head.	
August 8, 1917	Anchorage Channel, extension of Ambrose Channel into Upper Bay	H.Doc-518, 63rd Cong., 2nd sess.
August 8, 1917	Removal of Craven Shoal	H.Doc 557, 64th Cong., 1st sess.
August 8, 1917	Channel between Staten Island and Hoffman and Swinburne Islands	H.Doc.625, 64th Cong., 1st sess.
August 30, 1935	Dredging south end of Red Hook Flats, Liberty Island Anchorage, and channel along New Jersey pierhead line.	H.Doc. 183, 73rd Cong., 2nd sess.
August 30, 1935	Deepen Bayside-Gedney Channel to 35 feet for a width of 800 feet	H. Doc. 133, 74th Cong., 1st sess.
August 26, 1937	Deepen Ambrose and Anchorage Channels to 45 feet for a width of 2,000 feet	Senate Commerce Doc. 75th Cong., 1 sess.
July 3, 1958	Dredging South Channel, elimination of portion of Bayside-Gedney Channel	S.Doc.45, 84th Cong., 1st sess.
October 27, 1965	Deepen and expand Red Hook Flats Anchorage, Deepen Gravesend Bay Anchorage	S.Doc. 17, 89th Cong., 1st sess.
March 31, 1982	Further expansion of Red Hook Flats Anchorage and the relocation of Anchorage channel.	OCE Letter 31 Mar. 1982
	NEW YORK AND JERSEY CHANNELS (See Section 15 of Text)	
September 6, 1933 August 30, 1965	Anchorage off Perth Amboy to 35 feet	H.Doc. 1387, 62nd Cong., Doc. 17, 71st. Cong., 2nd sess.
May 28, 1935	Channels 35 feet deep from lower bay to upper bay, except between vicinity of Smith Creek and vicinity of Piles Creek to 30 feet with anchorage 38 feet deep at Sandy Hook and Perth Amboy	H.Doc. 133, 74th Cong., 1st sess.
May 17, 1950	Channel 35 feet deep from vicinity of Smith Creek to vicinity of Piles Creek	H.Doc. 233, 81st Cong., 1st sess.
October 27, 1965	Widen entrance to Kill Van Kull to 1,400 feet narrowing to a minimum width of 1,000 feet	H.Doc. 108, 98th Cong., 1st sess.
	NEWARK BAY, HACKENSACK & PASSAIC RIVER, NJ (See Section 16 of Text)	
March 2, 1907	16 foot channel in Passaic River	H.Doc. 441, 59th Cong., 2nd sess.

NEW YORK, NY DISTRICT

TABLE 2-B **AUTHORIZING LEGISLATION**

Act	Work Authorized	Document
February 27, 1911	Widening 16 foot channel in Passaic River	H.Doc. 411, 59th Cong., 2nd sess.
July 25, 1912	20 foot channel in Passaic River	H.Doc. 707, 62nd Cong.,
January 21, 1927	10 foot channel in Passaic River	H. Doc. 284, 60th Cong., 2nd sess.
July 3, 1930	30 foot channel in Passaic River	H.Doc. 156, 71st Cong., 2nd sess.
March 22, 1945	35 and 37 feet in main channel of Newark Bay and branch channel to an inshore channel at Port Newark terminal and remove portion of rock area at Bergen Point to same depths.	S. Doc. 250 79th Cong. 2nd sess.
March 2, 1945	Modification of local cooperation for 10 foot channel in Passaic River.	H.Doc. 430, 76th Cong. 1st sess.
September 3, 1954	34-32 foot channel in Hackensack River including approach channel in Newark Bay from branch channel at Port Newark Terminal and a 25 foot turning basin.	H.Doc. 252, 82nd Cong. 1st sess.
October 23, 1962	35 foot channels at Port Elizabeth	H.Doc. 289, 88th Cong. 2nd Sess.
November 7, 1966	Widening 35 foot channel in Newark Bay, provision of two maneuvering areas, widening entrance into Port Elizabeth and Port Newark branch channels, deepening and widening Newark Bay 32 foot channel and provision of a turning basin at junction of a Hackensack and Passaic Rivers; and deepening 12 foot channel in Hackensack River to 15 feet.	H. Doc. 494, 89th Cong. 2nd sess.
	RARITAN RIVER, NJ (See Section 17 of Text)	
March 2, 1919	Channel 15 feet deep and 20 feet wide to Washington Canal 10 feet deep and 150 feet wide to canal locks and 10 feet deep thru South Channel	H.Doc. 1341, 62nd Cong., 3rd sess.
July 3, 1930	Channel 25 feet deep and 300 feet wide up to New York and Long Branch Railroad bridge.	H.Doc. 454, 70th Cong., 2nd sess.
July 3, 1930	Channel 10 feet deep in earth and 11 feet in rock to New Brunswick width reduced to 100 feet.	H.Doc. 127, 70th Cong., 1st sess
July 3, 1930	Relocation of lower reach to South Channel.	Rivers and Harbors Committee Doc. 31, 71st Cong., 2nd sess.
August 26, 1937	Channel 25 feet deep and 300 feet wide to junction of main and south channels, thence of same depth on South Channel	Rivers and Harbors Committee Doc. 74, 74th Cong.
October 17, 1940	Channel 25 feet deep and 300 feet wide from junction of main south channels to government wharf, including a turning basin	Report on file in the Office, Chief of Engineers
October 23, 1962	In South Channel, maintenance of 15 foot channel to dock of Middlesex County Sewerage Authority.	H.Doc. 455, 86th Cong., 2nd sess.

TABLE 2-B AUTHORIZING LEGISLATION

Act	Work Authorized	Document
	SAG HARBOR, NY (See Section 18 of Text)	
June 13, 1902	Breakwater	H.Doc. 77, 56th Cong., 1st sess.(Annual Report 1900, p. 1451)
August 30, 1935	Entrance channel, anchorages and turning basin	Rivers and Harbor Committee Doc. 32, 74th Cong., 1st sess. (contains latest published map)
October 31, 1992	Entrance channel, anchorages and turning basin deauthorized	H.R. 6167
	SHINNECOCK INLET, NY (See Section 19 of Text)	
July 14,1960	Channel 10 feet deep and 200 feet wide in Inlet, and 6 feet deep and 100 feet wide in the Bay, and 2 jetties.	H.Doc. 126, 86th Cong., 1st sess. FY 83 Supplemental Appropriations Act
	ATLANTIC COAST OF LONG ISLAND, JONES INLET TO EAST ROCKWAY INLET, LONG BEACH ISLAND, NY (See Section 24 of text)	
October 1, 1986	Storm damage protection, rehabilitation of existing groins and construction of new groins	Section 101(a)21 of WRDA 1996
	EAST ROCKAWAY INLET TO ROCKAWAY INLET AND JAMAICA BAY, NY (See Section 25 of Text)	
1974 & 1986 Water Resources Development Acts	Beach nourishment of 100 to 200 foot wide beach at elevation 10 feet MSL	
	FIRE ISLAND INLET TO MONTAUK POINT, NY (See Section 26 of Text)	
1960 River & Harbor Act	Raising dunes, widening beaches, interior drainage structures, groins beach replenishment, annual nourishment.	H.Doc.425 86th Cong., 2nd sess.
1974 Water Resources Development Act	Project modified to provide that non-Federal interest shall contribute 30 percent of first costs	P.L.93-251, 93rd Cong., H.R. 10203
1986 and 1992 Water Resources Development Acts		
	RARITAN BAY AND SANDY HOOK, NJ (See Section 27 of Text)	
October 12, 1962	This project provides for beach fill, groins and levees for various sections of the study area.	Flood Control Act of 1962 H.Doc.464, 86th Cong., 2nd sess.
	The study seeks to determine the advisability of changes to the recommendation	Section 506 of WRDA 1996
	ROCKAWAY INLET TO NORTON POINT (CONEY ISLAND) NY (See Section 28 of Text)	
1986 Water Resources Development Act Section 501 at Sea Gate.	Provide beach fill to public beach to furnish storm damage protection to the area. Extension of terminal groins a W.37 St. and Brighton Beach Fillet of beach fill.	

TABLE 2-B

NEW YORK, NY DISTRICT
AUTHORIZING LEGISLATION

Act	Work Authorized	Document
	SANDY HOOK TO BARNEGAT INLET, NJ (See Section 29 of Text)	
July 3, 1958 1988 Water Resources Development Act	Restoration of beach to minimum width of 100 feet at height of 10 feet above m/w, and construction of 23 new groins and extension of 14 existing groins	H.Doc.332, 85th Cong., 2nd sess., modified by Appr.Act for Energy & Water Dev.for FY'85
	HACKENSACK MEADOWLANDS, NJ (See Section 32 of Text)	
February, 1996	Tide gate improvements to control flooding in the Berry's CREEK damage basin, the mitigation enhancement and acquisition of wetlands, the development and implementation of a system to provide for water quality monitoring and wetland monitoring, storm water management and watershed clean-up.	WRDA of 1992, sect.324 Amended by WRDA of 1996 sect. 550
	JOSEPH G. MINISH PASSAIC RIVER WATERFRONT PARK AND HISTORIC AREAS, NJ (See Section 33 of Text)	
November 28, 1990	The first phase restores riverbanks and wetlands. The second phase adds 9,200 foot waterfront walkway and third phase adds park facilities, plazas and landscaping.	WRDA 1990; PL 101-640 WRDA 1992; PL 101-580 WRDA 1996; PL 104-303
	NEW YORK CITY WATERSHED, NY (See Section 34 of Text)	
April, 1997	Provide design and construction assistance for water-related environmental infrastructure and resources protection	WRDA 1996, sect. 552 CR52, HR. 36
	PASSAIC RIVER BASIN, NJ (See Section 35 of Text)	
1976, 1990 & 1992 Water Resource Dev. Acts	Advanced engineering and design study; involving reformulation of plans for flood control and water resource management	H.Rpt. 94-1702
	PRESERVATION OF NATURAL FLOOD STORAGE PASSAIC RIVER, NJ (See Section 36 of Text)	
October 22, 1976	The preservation element includes acquisitions 5,350 acres of natural storage area, 5,200 acres of which are wetlands and could conceivably be developed	WRDA of 1976; PL 94-587 WRDA of 1990 WRDA of 1996
	RAMAPO RIVER AT MAHWAH, NJ AND AT SUFFERN, NY (See Section 37 of Text)	
WDRA of 1986 (P.L. 99-662)	Plan for Flood damage reduction includes channel modification to approximately 13,000 feet of the Ramapo River, Mahwah River and Masonicus Brook.	H.Doc. 99-1013, 99th Cong., 2nd Session
	RAMAPO AT OAKLAND, NJ (See Section 38 of Text)	
October 22, 1976	Phase I Advanced Engineering and Design Study was authorized. Congressional guidance for the conduct of the study. The study was authorized for consturction.	WRDA of 1976; PL 94-587 WRDA of 1986; PL 99-662 WRDA of 1996; PL 104-303
	RARITAN RIVER BASIN, GREENBROOK SUB-BASIN, NJ (See Section 39 of Text)	
March 16, 1981 February, 1984	Recommended 150 year flood protection in lower portion. Recommended portection to 500 year level. Authorizes construction of Greenbrook Flood Control. Flood control combines levees, flood walls, channel modification, flood proofing, and natural flood storage to provide protection.	WRDA 1986, sect. 401(a)

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001

TABLE 2-C

COST AND FINANCIAL STATEMENT

HUDSON RIVER, NY

FEATURES OF LOCK AND DAM INCLUDED IN EXISTING PROJECT

(Section 6 of Text)

Location:	
Below Waterford	2.2 miles
Above Battery, New York City	152.6 miles
Locks:	
Clear Width	44.4 feet
Greatest length available for full width	492.5 feet
Lift at lowest stages	17.3 feet
Depth on miter sills:	
Upper (at normal pool level)	16.3 feet
Lower (at lowest low water)	13.0 feet

Character of foundation: Rock
King of dam: Fixed Crest
Type of consturction: Concrete
Complete: 1917
Cost $1,463,014

TABLE 2-E

SUPERVISOR OF NEW YORK HARBOR

STATEMENT OF ACTIVITIES - FY 2001

1. Number of Patrols:	
a. Shore	80
b. Vessel	164
c. Air (helicopter)	0
	Total 244
2. Number of Inspection:	
a. Shore Facilities	203
b. Vessels	104
	Total 307
3. Disposition of Cases:	
a. Voluntary Restoration	25
b. After-the-Fact Permit Applications Accepted	5
c. Permit Not Required or Already Under Permit	80
d. Submitted for Litigation to OCE or U.S. Attorney	0
e. Other Misc.	82
f. Cases Pending as of 10/1/98	190
	Total 382

NEW YORK, NY DISTRICT

TABLE 2-F **RECONNAISSANCE AND CONDITION SURVEYS FY 01**

NAME OF PROJECT	DATE SURVEY CONDUCTED
NEW JERSY	
Cheesequake Creek	May 01
Keyport Harbor	June 01
Matawan Creek	June 01
Newark Bay-Main Channel, NJ	Dec 01
Newark Bay-Hackensack & Passaic River	Nov 01
Raritan River	June 01
Sandy Hook Bay at Leonard	July 00
Shark River	Apr 00
Shoel Harbor & Compton Creek	June 01
Shrewsbury River	Aug 01
NEW YORK	
Ambrose Channel	Dec 99
Arthur Kill	Sep 01
Bayridge & Red Hook Channel, NY	Apr 00
Bronx River	June 01
Browns Creek	Apr 00
Battermilk Channel	May 01
Main Ship Channel	Dec 01
Coney Island Channel	Apr 00
Coney Island Creek	Nov 99
Eastchester Creek	Nov 00
East River	May 01
East Rockaway Inlet	Apr 00
Edgewater - Weehawken Channel	Jun 00
Fire Island Jetty	20 Feb - 18 Mar 00
Flushing Bay and Creek	Feb 00
Gravesend Bay	Feb 00
Glen Cove Creek	May 00
Great Kill Harbor	Jan 01
Great South Bay	Jul 01
Green Port Harbor	May 00
Hudson River	Feb 01
Huntington Harbor	Mar 00
Jamaica Bay	Sep 01
Jones Inlet	Mar 01
Lake Montauk Harbor	Dec 01
Long Island Intercoastal W/W	Dec 01
Main Channel	Mar 00
Mamaroneck Harbor	Apr 01
Mattituck Harbor	Mar 02
Milton Harbor	Feb 01
Moriches Inlet	Apr 01
New York Harbor	Jul 00
New York & New Jersey Channel	Sep 01
Newton Creek	Nov 01
Pierhead/Bulkhead GIS Database	Jan 00
Port Chester Creek Harbor	Apr 01
Raritan Bay Reaches	Sep 01
Red Hook Flats Anchorage	Jan 01
Sandy Hook Channel	Aug 00
Sheepshead Bay	Nov/Dec 99
Shinnecock Inlet	Apr 01
Tarrytown Harbor	Aug 01
Ward Point Bend	Apr 01
Westchester Creek	Oct 02

Total cost of Reconnaissance and Condition Surveys in Fiscal Year 2001 was $1,981,773.00

OTHER AUTORIZED NAVIGATION PROJECTS

TABLE 2-G

Projects	For Last Full Report See Annual Report for	Cost to Sept 30, 2001 Consturction	Operation & Maintenance
Bay Ridge-Red Hook Channels, NY	1992	5,523,297	41,200,035
Bronx River, NY	1991	1,149,946[3]	3,802,517
Browns Creek, NY	1995	33,976[12]	1,072,040
Burlington Harbor, VT	1966	706,414[9]	303,555
Channel between North & South Hero Islands, VT	1909	31,000	1,288
Cheesequake Creek, NJ	1953	40,000	210,675
Coney Island Channel, NY	1973	111,371	423,148
Coney Island Creek, NY	1952	69,489	6,203
East River, NY	1997	32,723,662[13]	8,225,184
East Roackaway Inlet, NY	1997	83,969	16,624,362
Echo Bay Harbor, NY	1953	64,584	21,571
Fire Island, Inlet, NY	1973	594,355	2,908,786
Flushing Bay & Creek, NY	1997	2,102,905	8,878,900
Gordon's Landing, VT	1982	34,750	115
Gowanus Creek Channel, NY	1972	346,831	394,004
Great Chazy River, NY	1980	18,000	292,919
Great Kills Harbor, NY	1962	137,301[1]	88,029
Great Lakes to Hudson River W/W, NY	1976	33,562,640[20]	457
Greenport Harbor, NY	1953	74,681	21,720
Harlem River, NY	1969	3,616,119	493,491
Hempstead Harbor, NY	1993	3,687,949	76,497
Hudson River Channel, NY	1997	6,771,870	37,136,037
Huntington Harbor, NY	1953	91,081[17]	57,527
Keyport Harbor, NJ	1990	40,475	1,417,437
Lake Montauk, NY	1991	791,680	1,288,163
Larchmont Harbor, NY	1970	76,065	267,768
Little Neck Bay, NY	1969	1,741,210[19]	537
Mamaroreck Harbor, NY	1990	513,764	1,351,086
Matawan Creek, NJ	1984	21,000	315,613
Mattituck Harbor, NY	1990	177,925	1,417,832
Milton Harbor, NY	1984	151,373	1,057,260
Newton Creek, NY	1986	1,168,354	1,760,745
New Rochelle Harbor, NY	1971	73,214[8]	212,411
New York State Barge Canal, NY	1988	-	-
Northport Harbor, NY	1956	78,644	61,487
Peconic River, NY	1953	25,000	116,500
Peekskill Harbor, NY	1951	19,400	66,037
Plattsburgh Harbor, NY	1986	198,415	256,415
Port Chester Harbor, NY	1990	433,470[6]	1,742,097
Port Henry Harbor, NY	1931	69,406[25]	1,299
Port Jefferson Harbor, NY	1977	221,128[31]	359,294
Raritan River, NJ	1991	1,551,470	16,114,463
Raritan River to Arthur Kill Cut-Off Channel, NJ	1991	810,500	3,965,631
Roundout Harbor, NY	1989	142,437	3,185,437
Rouses Point, Lake Champlain, NY	1895	98,468	249
Sag Harbor, NY	1964	212,805[26]	11,710
Sandy Hook Bay, NJ	1985	508,936	4,002,330
Sandy Hook Bay @ Leonardo, NJ	1991	56,479	679,916
St. Albans Harbor, Lake Champlain, VT	1917	3,125	385
Saugerties Harbor, NY	1988	81,905[18]	429,180
Shark River, NJ	1987	150,000	1,254,813

NEW YORK, NY DISTRICT
OTHER AUTORIZED NAVIGATION PROJECTS

TABLE 2-G

Projects	For Last Full Report See Annual Report for	Cost to Sept 30, 2001 Consturction	Operation & Maintenance
Sheepshead Bay, NY	1948	33,828	64,078
Shoal Harbor & Compton Creek, NJ	1990	124,572[7]	1,822,938
Staten Island Rapid Transit Railway Bridge, Arthur Kill, NY	1973	7,730,476	-
Sumpawanus (Babylon Creek) Inlet, NY	1895	7,000	-
Wallabout Channel, NY	1953	18,174	36,312
Wappinger Creek, NY	1950	13,000	44,691
Washington Canal and South River, NJ	1953	206,116[30]	212,827
Woodbridge Creek, NJ	1953	48,823	178,398

1. Excludes $104,800 for new work expended from contributed funds.

2. Includes $1,836,400 for new work for previous projects. Excludes $285,600 expended from contributed funds.

3. Includes $496,250 for new work for previous projects and $122,051 from public workds funds.

4. Excludes $1,822,530 for new work expended from contributed funds.

6. Includes $16,369 for maintenance for previous projects.

7. Includes $17,000 for new work for previous projects.

8. Includes $43,175 for new work for previous projects.

9. Includes cost of maintenance prior to July 1, 1886. Excludes $1,415,133 for rehabilitation.

10. Includes $169,700 for maintenance for previous projects.

12. Includes $69,036 for new work and $26,921 for maintenance for previous projects. Excludes $10,000 for new work expended from contributed funds.

13. Includes $6,187,690 for new work and $37,664 for maintenance for previous projects.

14. Excludes $104,805 for new work expended from contributed funds.

15. Includes $111,419 for maintenance for previous projects and $64,560 expended from public works funds.

16. Includes $1,490,713 for maintenance for previous projects.

17. Excludes $19,546 for new work expended from contributed funds $31,454 to be contributed.

19. Excludes $1,741,210 for new work expended from contributed funds.

20. Included $4,456,400 for new work expended from emergency relief funds.

23. Excludes $15,000 for new work expended from contributed funds.

25. Excludes $1,000 for new work expended from contributed funds.

26. Excludes $66,758 for rehabilitation.

28. Includes $15,000 for maintenance for previous projects.

30. Includes $84,934 for maintenance for previous projects.

31. Includes cost for new work $171,427 and maintenance $20,646 for previous projects.

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001
OTHER AUTORIZED BEACH EROSION PROJECTS

TABLE 2-H

Projects	For Last Full Report See Annual Report for	Cost to Sept 30, 2001 Consturction	Operation & Maintenance
Atlantic Coast of NJ, Sandy Hook to Barnegat Inlet [1]	1959		
Raritan Bay and Sandy Hook Bay, NJ	1981	11,061,256	262
Fire Island Inlet to Jones Inlet, NY[2]	1981	18,044,667	217,900

1. Reactivated as a modified project in 1985 (Sec.21)
2. Listed since 1982 as a navigation and beach nourishment project (Sec.4)

TABLE 2-I **OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

Projects	For Last Full Report See Annual Report for	Cost to Sept 30, 2001 Consturction	Operation & Maintenance
Adams, Hossic River Basin, Mass. [1]	1964	6,282,307[2]	-
Ardsley, NY	1990	5,477,281	-
Byram River at Pemberwick, Conn.[1, 3]	1959	363,515	-
East Barre Dam, Winooski River, Vt. [1]	1963	2,898,334	-
Elizabeth, NJ	1985	54,374,070	-
Herkimer, NY	1973	1,249,530[9]	-
Hoosic Falls, Hoosic River Basin, NY [1]	1956	1,064,626	-
Lamoille River, Vt: Harwich Dams 5, 6	1939	-	-
Liberty State Park Levee and Seawall, NJ	1990	17,888,670	-
Missisquoi River at Richford, VT 13	1965	238,169	-
North Adams, Hoosie River Basin, Mass,	1968	15,572,988[7]	-
Rahway, NJ	1971	973,142[8]	-
Rahway, South Branch, NJ	1979	15,863,723	-
Rosendale, NY	1975	3,684,966	-
Sandburg Creek, Spring Glen, NY	1976	109,702	-
Sawmill R. Elmsford & Greenburgh, NY	1987	62,917	-
South Amsterdam, Mohawk River, NY	1967	1,564,976	-
South Ellenville, NY	1984	289,702	-
South Orange, NJ	1981	6,857,484	-
Staten Island, NY	1983	664,998	-
Wappinger Creek at Pleasant Valley, NY 1-3	1959	142,075	-
Waterbury Reservoir Winooski River Basin, Vt.	1976	1,438,845	8,200
Winooski River, Vt.	1940	5,897,427	-
Wrightsville Dam, Winooski River Basin, Vt.	1970	1,549,929	-
Yonkers, NY	1984	113,754,475[10]	-

1. Completed.
2. Excludes costs of $913,360 under other contributed funds.
3. Authorized by Chief of Engineers pursuant to Sec. 205, Public Law 858, 80th Cong., as amended.
4. Inactive.
5. Includes $213,507 emergency relief funds.
7. Excludes cost of $21,000 under other contributed funds.
8. Excludes cost of $51,500 under other contributed funds.
9. Uncompleted portion has been deauthorized.
10. Includes $622,817 6 contributed funds.

TABLE 2-J **SURVEYS**

Study Class	FY 01 Cost
Navigation Studies	424,849
Flood Control Studies	962,788
Beach Erosion Studies	2,945,261
Special Studies 1	873,213
TOTAL	5,206,111

1. Includes watershed/ecosystems, special investigations, FERC licensing activities, Intra Army water resources, Nat'l Estuary studies, Marine Fisheries Service, Planning Ass't to States, Coord. Studies of other agencies.

TABLE 2-K **PRECONSTRUCTION ENGINEERING AND DESIGN**

Authorized Projects	FY 01 Cost
Navigation	
Arthur Kill Channel - Howland Hook Terminal, NY & NJ	133,247
Hudson River Habitat Restoration, NY	14,492
New York and New Jersey Harbor Deepening, NY & NJ	2,556,982
TOTAL	2,704,721
Flood Control	
Green Brook Sub-Basin, NJ	9,317
Lower Saddle River, NJ	21,571
Passaic River Harrison, NJ	53,909
Passaic River Mainstem, NJ	5,112
Passaic River Mainstem	-115,298
Preservation of Natural Flood Storage Areas, NJ	
Sawmill River @ Elmsford, Greenburgh, NY	3,098
TOTAL	-22,291
TOTAL	2,682,430

TABLE 2-L **COSTS FOR FLOOD PLAIN MANAGEMENT SERVICES**

Study Class	FY 00 Cost
Flood Plain Technical Services	45,851
Flood Plain Management Unit	42,055
Mackville Pond, VT	36,544
Detention/Retention Study, VT	3,736
Quick Response	14,954
Chazy Lake, NY	699
TOTAL	143,839

TABLE 2-M Deautorized Projects

Projects	For Last Full Report See Annual Report for	Date And Authority	Federal Funds Expended	Construction	Operation And Maintenance
Bennington, VT (1936 & 41 Acts)	1974			670,000	
Bronx River, NY	1981	Aug. 1982	1,148,946	1,159,946[12]	1,947,853
Brown's Creek, NY	1980	Aug. 1977	33,976	33,976[8]	505,369
Cheesequake Creek, NJ 4	1953	Aug. 1982	40,000	40,000	30,675
Coney Island Creek, NY 4-6	1952	Aug. 1982	69,489	69,489	1,622
East Chester Creek, NY (1950 Act)	1992	July 1992	-	-	-
East Rockaway (Devs) Inlet, NY4	1963	Aug. 1977	3,503,969[13]	100,000	-
East Rockaway Inlet to Rockaway Inlet and Jamaica Bay, NY (Part11)	1976	1988	-	1,185,365	-
Elizabeth, NJ	1948	Aug. 1977	60,481	60,481	59,391
Glen Cove Harbor, NY	1966	Aug. 1977	165,882	165,882[4,11]	2,455
Hempstead Harbor, NY (68 Act) 14	1989	Jan. 1990	-	39,468	76,497
Hudson River, NYC to Albany (12 ft, 27 ft) 18	1982	Aug. 1987	-	-	-
Huntington Habor, NY	1953	Aug. 1977	49,035	68,581[45]	51,566
Irvington Harbor, NY	1947	Aug. 1977		-	-
Lamoille River, VT	1939	Aug. 1977	49,837	49,837	-
Lemon Creek, NY	1937	1988	-	6,621	1,621
Manhasset Bay, NY	1948	1988	-	-	4,636
Matawan Creek, NJ (1881 Act)	1984	1988		21,000	257,237
N.Shore of Long Island, Suffolk County, NY	1979	Jan. 1990	-	-	-
Newark Bay, Hackensack and Passaic River, NJ 16	1982	Aug. 1982	-	-	-
NY & NJ Channels 4, 18	1982	Aug. 1982	-	-	-
Orowoc Creek, NY	1949	1988	-	-	4,951
Otter Creek, VT	1937	Jan. 1990	-	-	-
Perth Amboy, NJ	1966	Jan. 1990	-	-	-
Port Chester Harbor, NY 2,3	1967	Aug. 1977	433,470	433,470[4]	441,656
Port Jefferson Hbr. NY (1980, 1930 & 68 Acts)	1977	Jan. 1990	-	-	-
Rahway River, NJ 6,7	1948	Aug. 1982	-	37,000[4]	307
Raritan River, NJ 4,6	1981	Aug. 1982	1,551,470	1,617,470[15]	10,113,903
Rome Mohawk River, NY 6,7	1959	Aug. 1982	7,000	7,000	-
Rutland, Otter Creed, VT	1963	1988	-	211,015	-
Sag Harbor, NY (Channel) 1	1964	Oct. 1992	-	-	-
Shooters Island, NJ & NY 9	-	July 1992	-	-	-
Shrewsbury River, NJ (1950 & 1965 Act)	1992	Jan. 1990	-	-	-
Swanton Harbor, VT6	1888	Aug. 1977	-	70,500[4]	235
Ticonderoga River, NY 1-6	1895	Nov. 1983	167,760	16,500	1,260
Waterbury, VT (1941 Act) 7, 8	1951	Nov. 1981	9,253	9,253	-
Waterford, NY 6, 7	1939	Aug. 1982	-	-	-
Waycake Creek, NJ	1949	1988	-	2,781	-
Westchester Creek, NY 4	1981	Aug. 1982	175,933	175,933	2,921,311

1. No Commerce reported.
2. Completed.
3. A portion of this project is classified "inactiver."
4. Uncomplete portion deauthorized.
5. Excludes $19,546 for new work expended contributed funds.
6. Inactive.
7. Entire project deauthorized.
8. Excludes $71,423 for rehabilitation.
9. Removal for navigation.
10. Deepening 8 foot project to 10 feet.
11. Includes $93,882 for Rehabilitation.
12. Includes $10,000 expended from contributed funds.
13. Includes $100,000 expended from contributed funds.
14. Deepening project to 13 feet.
15. Includes $66,000 expended from contributed funds.
16. 1912 authorization.
17. 1935 authorization.
18. 1910 construction dikes.

TABLE 2-N **SECTION 107**

Project	FY 01 Cost
CONTINUE COORDINATING FEASIBILITY STUDY	
Coordination Account	$10,194

TABLE 2-P **SECTION 103**

Project	FY 01 Cost
CONSTRUCTION FUNDING	
Oakwood Beach, Staten Island, NY	451
Shelter Island, NY	10,561
Rikes Island, East River, NY	8,442

TABLE 2-O **SECTION 111**

Project	FY 01 Cost
FEASIBILITY STUDY	
Coordination Account	9,359
Mattituck Harbor, NY	76,908

TABLE 2-Q **SECTION 205**

Project	FY 01 Cost
FEASIBILITY STUDY	
Fulmer Creek, Village of Mohawk, Herkimer City, NY	56
Lemay Wetlands, Restoration, NY	2,410
Poplar Brook, Monmouth City, NJ	51,633
Moyer Creek, Village of Frankfort, Herkimer City, NY	312
Steele Creek, Village of Ilion, Herkimer City, NY	487
Upper Peckman River Basin, NJ	91,525
Hardwick Lake, Hardwick, VT	20,558
Jackson Brook, Morris City, NJ	6,093
McKeel Brook Morris County, NJ	117,008
Trout River, VT	629

PLANS AND SPECIFICATIONS

Coordination Account	10,043
Sauquoit Creek, Whitesboro, NY	33,818
Elizabeth River, Hillside, NJ	872,863
Mill Brook, Highland Park, NJ	19,557

TABLE 2-R **SECTION 14**

Project	FY 01 Cost
PLANNING AND DESIGN ANALYSIS	
Coordination Account	10,561
Hudson River Poughkeepsie, NY	72,549
Elizabeth River, Valley View Rosendale, NJ	99,307
Mt. Pleasant Avenue, Hanover, NJ	9,723
Richford Water Supply, VT	86,465
South Branch, Rahway River, NJ	12,065
Wallkill River, Rosendale, NY	96,145

TABLE 2-S **SECTION 206**

Project	FY 01 Cost
COORDINATION ACCOUNT	$10,109
PRELIMINARY RESTORATION PLANS	$8,929
Gerritsen Creek, NY	$4,582
Eagle Lake Tower of Ticonterogg, NY	$5,061
Saratoga Lake Ballston, NY	$4,830
West Beach, Stowe, VT	$10,000
Port Jefferson Harbor, NY	$39,283

TABLE 2-T **SECTION 1135**

Project	FY 01 Cost
COORDINATION ACCOUNT	13,608
Elizabeth River, Union County, NJ	10,000
Hossic River, MA	22,260
INITIAL APPRAISALS, GENERAL	10,374
Lake Champlain, VT	10,508
Lincoln Park, West Jersey, NJ	216,576
Northport Harbor, Town of Huntington, NY	62,254
Rahway River, Environmental Restoration, NJ	312,083
Town of Brookhaven Hand Camp Restoration, NY	97,059

PHILADELPHIA, PA DISTRICT

This district comprises a portion of southeastern New York, eastern Pennsylvania, western and southern New Jersey, northern and southern Delaware, and a small part of northeaster Maryland embraced in the drainage basins tributary to the Atlantic Ocean from Manasquan River, NJ inclusive, to south boundary of Delaware. It also includes Chesapeake and Delaware Canal and approach channel thereto in Chesapeake Bay and Elk River, MD.

IMPROVEMENTS

Navigation:

1. BARNEGAT INLET, NJ

Location: On the east coast of New Jersey about 50 miles south of Sandy Hook, between Island Beach on the north and Long Beach on the south (See U.S. Coast and Geodetic Chart Nos. 825 and 1216). This inlet is the main entrance to Barnegat Bay, largest of the bays on New Jersey coast, which are separated from the ocean by narrow barrier beaches.

Previous Project: None

Existing project: The existing project, adopted as HD 73-19 in 1935 and modified as HD 74-85 in 1937 and HD 79-358 in 1946, provides for a channel eight feet deep through the inlet and ten feet deep through the outer bar, protected by two converging stone jetties and a channel of suitable hydraulic characteristics extending in a northwesterly direction from the gorge in the inlet to Oyster Creek channel and through the latter channel to deep water in the bay. The project was modified in 1946 to provide for the maintenance of a channel eight feet deep and 200 feet wide to connect Barnegat Light Harbor with the main inlet channel. The project length is about 4.5 miles. (For details see page 203, Annual Report 1964.)

The Supplemental Appropriation Act of 1985 contained language stating that the existing project has not worked as projected and, in fact has created a hazard to navigation. As a result, the following administratively approved modifications were constructed as design deficiency correction measures: a new south jetty 4,270 feet in length along an alignment generally parallel to the existing north jetty, extending from the old groin located near the Barnegat Lighthouse to the tip of the existing south jetty; a navigation channel 300 feet wide to a depth of 10 feet below mean low water from the outer bar in the Atlantic Ocean to the north end of the existing sand dike in Barnegat Bay; remove the shoal located between the north jetty and the proposed navigation channel; jetty sport fishing facilities on the new jetty. All dredged material from initial construction was placed on the shores of Barnegat Light between the existing and new south jetties, and is being stabilized by vegetation and sand fence. Dredged material from maintenance operations are placed on the down draft beaches, the area between the existing and new south jetties, or in other locations as determined by a shoreline monitoring program. Estimated cost for new work (October 1990) Federal share is $31,200,000 and non-Federal is $14,230,000. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2001.)

Local cooperation: Fully complied with. A local cooperation agreement for the approved modification was executed on 19 May 1986 and a modification to the local cooperation agreement was executed on 20 March 1987.

Terminal facilities: There are four docks or terminals in inner harbor at Barnegat Light that furnish adequate facilities for present commerce of locality.

Operation during fiscal year: Maintenance: Condition surveys were accomplished. Dredging by the U.S. Government Dredge Currituck removed a total of 212,000 cubic yards of material at a total of $863,000.

2. COLD SPRING INLET, NJ

Location: In Cape May County, southern New Jersey, about 3 miles east of Cape May City and about 16 miles northeast of Delaware breakwater. Inlet connects Cape May Harbor and New Jersey Intracoastal Waterway with the Atlantic Ocean and is about 1 mile long. (See Coast and Geodetic Survey Charts 234, 827 and 1219).

Existing project: An entrance channel 25 feet deep and 400 feet wide, protected by two parallel jetties, and extending from the 25-foot depth curve in the Atlantic Ocean to a line 500 feet harborward of a line joining the inner ends of the jetties, thence 20 feet deep and 300 feet wide to deep water in Cape May Harbor. The total length of the section included in the project is about 2.25 miles. Extreme tidal range, due to ocean storms, is about 11 feet. Project was completed in 1942. (For details see page 238, Annual Report for 1962. See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2001.)

Local cooperation: Complied with Act of 1907, except work of deepening and enlarging inner harbor that is 80 percent complete.

Terminal facilities: See page 238 Annual Report for 1962.

Operations during fiscal year: Maintenance: Dredging by the U.S. Government Side Casting Dredge Fry removed a total of 110,000 cubic yards of material from the inlet at a total cost of $379,000.

3. DELAWARE RIVER BETWEEN

PHILADELPHIA, PA AND TRENTON, NJ

Location: Rises in southeastern New York, flows generally southerly 367 miles, forming boundary line between New York and New Jersey on the east and Pennsylvania and Delaware on the west, and empties into Delaware Bay. (See U.S. COAST and Geodetic Survey Charts 1218, 280, 294, 295, and 296.)

Previous project: For details see page 1778 of annual report for 1915, page 311 of Annual Report for 1924, page 220 of Annual Report for 1934, and page 296, Annual Report for 1938.

Existing project: A channel from Allegheny Avenue, Philadelphia, 23.5 miles to upstream end of Newbold Island 40 feet deep and 400 feet wide, with suitable widening of bends, including relocation of channel at Delair Railroad bridge, and reconstruction of bridge, thence 5.5 miles to upper end of Trenton Marine Terminal, 35 feet deep and 300 feet wide, with a turning basin 800 feet wide and 1,700 feet long at the terminal; and maintenance of a channel 12 feet deep and 300 feet wide from upper end of 34-foot channel to Penn Central railroad Bridge at Trenton, dredged under a previous project. Project also provides for an auxiliary channel 20 feet deep and 200 feet wide east of Burlington Island, extending easterly from main channel to upper end of U.S. Pipe and Foundry Co.'s property at East Burlington, with a turning basin 450 feet wide at upper end; for initial excavation, only, of a cross channel 8 feet deep and 200 feet wide through artificial island opposite Delanco, NJ, and for construction of such bank protection works as may be necessary. Section included in project is about 30.5 miles long, excluding auxiliary channel east of Burlington Island, which is 1.4 miles long, and cross channel opposite Delanco. Lower end is about 55 miles above river mouth at Liston Point and about 105 miles above Harbor of Refuge at mouth of Delaware Bay. Freshets, which occur usually during February and March, attain a height of 9 to 20 feet above mean low water in the vicinity of Trenton. Navigation is occasionally suspended during a portion of winter months due to ice. Existing project is 90 percent complete. A 40-foot channel under the 1954 modification from Allegheny Avenue to upper end of Newbold Island was completed April 1964. Work remaining is dredging from upper end of Newbold Island to Trenton Marine Terminal and widening turning basin at terminal that is in deferred category. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2001.)

Local cooperation: Modification authorized by 1954 River and Harbor Act provides local interests must provide suitable terminal facilities, furnish lands and rights-of-way for construction and future maintenance, and hold the United States free from damages. Local interest complied with requirements, except city of Trenton has not provided suitable terminal facilities.

Terminal facilities: There are 21 piers, wharves, and docks from Allegheny Avenue, Philadelphia, PA to Trenton, NJ facilities are considered adequate for existing commerce. (For details see Port Series No. 8 (revised 1966-Corps of Engineers.)

Operations during fiscal year: Maintenance: Work included channel examination surveys and dredging operations by the government-owned Hopper Dredge McFarland during October 2000, and August/September 2001 on Enterprise, Beverly and Kinkora Ranges of the 40-foot channel.

4. DELAWARE RIVER MAINSTEM CHANNEL & DEEPENING, NJ, PA, & DE

Location: The project area is located within the Delaware Estuary and borders Pennsylvania, New Jersey and Delaware. It extends over 100 miles of the Delaware River from Philadelphia Harbor, Pa. and Beckett Street Terminal in Camden, NJ to the mouth of the Delaware Bay.

Existing project: Delaware River Federal Navigation Channel (Philadelphia to the Sea Project) completed in 1942. The project calls for modifying the existing Delaware River Federal Navigation (Philadelphia to the Sea Project) channel from 40 to 45 feet below Mean Low Water (MLW) with an allowable dredging over depth following the existing channel alignment from Delaware Bay to Philadelphia Harbor and the Beckett Street Terminal, Camden New Jersey, a distance of about 102.5 miles. The channel width (same as the existing 40-foot project) would range from 400 feet in Philadelphia Harbor to 800 feet from Philadelphia Naval Business Center to Bombay Hook and then 1,000 feet in Delaware Bay. The plan includes appropriate bend widening as well as provision of a two-space anchorage for safety purposes to a depth of 45 feet at Marcus Hook. The estimated project construction cost is $311,000,000.

Dredged material would be placed in confined upland disposal areas and for beneficial uses in Delaware Bay.

The improved channel will have a significant impact in allowing more efficient vessel loading, reducing the lightering requirements of crude oil tankers in the lower Delaware Bay, and attracting larger, more efficient container and dry bulk vessels. It is estimated that the proposed deepening will result in annual transportation savings of $40.1 million. Project estimate cost (October 2000) is Federal, $232,150,000, which includes $1,150,000 of Coast Guard contributions. Non-Federal costs are $128,000,000. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2001.)

Local Cooperation: Project Cooperation Agreement (PCA) has been negotiated and was forwarded to the sponsor for execution.

Operations During Fiscal Year: New Work: Negotiated PCA and initiated construction.

5. DELAWARE RIVER, PA, NJ, AND DE, PHILADELPHIA TO THE SEA

Location: See U.S. COAST and Geodetic Survey Charts 1218, 394, 295, and 280.

Previous project: For details see page 1779 of Annual Report for 1915, and page 299, Annual Report for 1938.

Existing project: Provides for a channel from deep water in Delaware Bay to a point in the bay, near Ship John Light, 40 feet deep and 1,000 feet wide; thence to Philadelphia Naval Base, 40 feet deep and 800 feet wide, with 1,200-foot width at Bulkhead Bar and 1,000-foot width at other bends; thence to Allegheny Avenue, Philadelphia, PA, 40 feet deep and 500 feet wide through Horseshoe Bend and 40 feet deep and 400 feet wide through Philadelphia Harbor, along west side of channel; and for anchorages at Reedy Point, Deepwater Point, Marcus Hook, and Mantua Creek, each 40 feet deep and 2,300 feet wide with respective length of 8,000, 5,200, 12,650, and 11,500 feet; anchorage at Gloucester 30 feet deep and about 3,500 feet long. Project also provides for construction of dikes and training works for regulation and control of tidal flow; for maintenance of an area on north side of channel opposite Philadelphia Naval Base between Shipway 3 and Schuylkill River to 40 feet deep and width of 150 feet on Mifflin Range and 200 feet on West Horseshoe Range; and for maintenance of any areas dredged by local interests to 35 feet deep between channel and a line 100 feet channelward of pierhead line between Point House wharf and Philadelphia Naval Base, when in opinion of Chief of Engineers such areas are so located as to be of benefit to generate navigation. Section included in project is about 96.5 miles long. All depths refer to plane of mean lower low water. Under influence of heavy and long-continued winds extreme tidal range is about 14 feet. Normal maximum velocity of tidal currents in the dredged channel varies between 2 and 3.5 miles per hour. Storm tides may increase maximum to as much as 4.5 miles per hour. Estimated cost for new work is $71,630,000 (July 1972) exclusive of amounts expended on previous projects. Channel to 37 deep and 500 feet wide through Horseshoe Bend and 37 feet deep and 60 feet wide through Philadelphia Harbor along east side of channel and Port Richmond anchorage to 37 feet deep, except for that portion of channel which forms a part of 40 feet deep and 400 feet wide channel portion is to be restudied and excluded from foregoing cost estimate. Estimated cost (July 1960) of this portion of project is $2,951,000. Existing project, excluding work deferred for restudy, is about 66 percent complete. The 40-foot channel from Naval Base to the sea was completed in 1942. Dredging Naval Base to Allegheny Avenue to 40 feet deep was completed in 1962. Enlarging anchorage at Marcus Hook was completed in 1967. Work remaining is to construct new anchorages at Reedy Point and Deepwater Point, and enlarge Mantua Creek anchorage, channel dredging from 35 to 37 feet deep over a width of 500 feet through Horseshoe Bend and about 600 feet through Philadelphia Harbor, and deepening Port Richmond Anchorage to 37 feet, all of which have been deferred for restudy. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: Requirements under 1938 River and Harbor Act for maintaining channel and anchorage in Philadelphia Harbor annually by cities of Philadelphia and Camden were removed (see 1962 Annual Report for details.)

Terminal facilities: There are 217 piers, wharves, and docks between Allegheny Avenue, Philadelphia and the sea, 135 on the waterfront of Philadelphia, Camden, and Gloucester, and 82 below Philadelphia. Facilities are considered adequate for existing commerce. (For further details see Port Series Nos. 7, revised 1967, and 8, revised 1966-Corps of Engineers.)

Operations during fiscal year: Maintenance: Routine maintenance of Government owned disposal areas and channel examination surveys. Work included dredging by the U.S. Government Dredge McFarland from October to November 2000 removing 283,941 cubic yards of material at a cost of $1,625,000. Maintenance dredging also was accomplished by Norfolk Dredging

Company from July to August 2001 removing 2,487,771 cubic yards of material at a cost of $4,562,383.

6. DELAWARE RIVER VICINITY OF CAMDEN, NJ

Location: Camden, NJ on east bank of Delaware River, is directly opposite the City of Philadelphia, PA. It is about 51 miles above mouth of the river and about 101 miles above Harbor of Refuge at the mouth of Delaware Bay. (See U.S. Coast Guard and Geodetic Survey Charts Nos. 295 and 280).

Previous project: Adopted by River and Harbor Act of June 25, 1910. No work was done on this project, for further details, see page 321, Annual Report for 1932.

Existing project: The existing project which is a modification to the Delaware River from Philadelphia to the Sea project was adopted as House Document No. 63-1120 in 1919 and modified by House Document No. 70-111 in 1930 and House Document No. 77-353 in 1945. Dredging to project depth of 37 feet in front of the Camden Marine Terminal was completed in March 1988. It also provides for dredging in of Camden to Newton Creek, with the depth increased to 40 feet in front of the Beckett Street Marine Terminal. These depths extend from the ship channel in Delaware River to a line parallel with and 50 feet distant from the established pierhead line. The project length is about four miles. Projects depths are well maintained in 40 foot depth section of channel. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001).

Local cooperation: Fully complied with.

Terminal facilities: See page 228, Annual Report 1962.

Operations during fiscal year: Maintenance: Work included project condition surveys.

7. INDIAN RIVER INLET AND BAY, DE

Location: Indian River rises in Sussex County, DE, and flows easterly 13 miles into Indian River Bay which is a shallow lagoon 6 miles long and 2 miles wide on the Delaware Coast about midway between Cape Henlopen and the Maryland State line. The inlet is an opening through the barrier beach separating Indian River Bay and the Atlantic Ocean (See U.S. COAST and Geodetic Survey Chart No. 1219.)

Previous project: Adopted by River and Harbor Act of August 2, 1882. For further details see page 744, Annual Report for 1888.

Existing project: This provides for the fixation of the inlet by the construction of two parallel jetties of steel-sheet pile and stone design extending to approximately the 14-foot depth curve in the ocean, and for dredging an entrance channel 15 feet deep and 200 feet wide, for a distance of 7,000 feet inshore from the jetties; thence a channel 9 feet deep, 100 feet wide in the bay, and 80 feet wide in the river, to and including a turning basin 9 feet deep, 175 feet wide, and 300 feet long at Old Landing; thence a channel 4 feet deep and 60 feet wide to the highway bridge at Millsboro. The project also provides that the interior channel dimensions may, at the discretion of the Chief of Engineers, be modified as found desirable to increase the hydraulic efficiency of the channel, without increasing the cost. The total length of the section included in the project is about 13.75 miles. All depths refer to the plane of mean low water. The extreme tidal range at the highway bridge is about 6 feet. Existing project was completed in 1951. For details see Annual Report for 1963. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: Fully complied with except that local interest are required to furnish suitable areas for disposal of dredged material during maintenance as and when needed, and provide terminal facilities.

Terminal facilities: There is a privately owned basin with berthing facilities for small boats located .75 miles west of the highway bridge near the inlet and .25 miles north of the inlet channel, connected therewith by a channel 6 feet deep and 40 feet wide; a U.S. Coast Guard wharf on the north side of the inlet channel in the same locality; and two wharves at Oak Orchard in Indian River Bay. The facilities are considered adequate for existing commerce.

Operations during fiscal year: Maintenance: Work included project condition surveys.

8. INLAND WATERWAY FROM DELAWARE RIVER TO CHESAPEAKE BAY, DE & MD

Location: The Waterway begins at Reedy Point on Delaware River, about 41 miles below Philadelphia, PA,

and passes through the sea level Chesapeake and Delaware Canal, a distance of 14 miles, to Back Creek, at Chesapeake City, MD. It then passes for 5 miles down Back Creek, thence 9 miles down Elk River to Chesapeake Bay and thence 18 miles down Chesapeake Bay to a point near Pooles Island. A branch channel connects Delaware River at Delaware City, DE, with main channel at a point about 1.5 miles west of Reedy Point. (See U.S. COAST and Geodetic Survey Charts 294, 1226, 570, and 572.)

Previous project: For details see Annual Report for 1934, page 242, and Annual Report for 1938, page 312.

Existing project: A channel 35 feet deep and 450 feet wide from Delaware River through Elk River and Chesapeake Bay to water of natural 35-foot depth in Chesapeake Bay including a cutoff at Penn Central Railroad crossing, and having a maximum radius of curvature of 7,000 feet at bends; a high-level, fixed railroad bridge with vertical clearance of 135 feet and horizontal clearance of 600 feet at the railroad crossing over the cutoff (economic study of railroad crossing requested by Office of Management and Budget resulted in construction of a single track vertical lift bridge in lieu of a high-level fixed railroad bridge); high-level fixed highway bridges over canal at Reedy Point, St. Georges, Summit, and Chesapeake City; a bascule drawbridge across Delaware City Branch Channel; extension of entrance jetties at Reedy Point; and anchorage in Elk River, 35 feet deep and 1,200 feet wide, with an average length of 3,700 feet; enlargement of anchorage and mooring basin in Back Creek to afford an area about 400 feet wide, 1000 feet long, and 12 feet deep; dredging Delaware City Branch Channel to 8 feet deep and 50 feet wide, and deepening existing basin to same depth; revetment of banks of canal as required between Delaware and Elk Rivers, and on banks of Delaware City Branch Channel east of Fifth Street Bridge; and construction of bulkheads. Total of section included in project, excluding Delaware City Branch Channel, which is about 2 miles long, is about 46 miles. All depths refer to plane of low water in Delaware River. Extreme tidal range is from 6.3 feet above mean high water to 3 feet below mean low water.

High-level fixed highway bridges were completed at St. Georges (4-lane) in 1942; at Chesapeake City (2-lane) in 1949; at Summit (4-lane) in 1960; and at Reedy Point (2-lane) in 1969. Relocation of Penn Central Railroad bridge was completed December 21, 1965. Enlargement to 35 feet deep and 450 feet wide was completed in the third quarter of FY 1975 with the exception of the anchorage at Elk River. Removing the old Penn Central railroad bridge was completed on January 21, 1972. Deepening of the Delaware City Branch Channel from 6 to 8 feet from a point 400 feet east of Fifth Street Bridge to its junction with the canal has been deferred for study.

Original cost of canal including purchase was $10,709,755; estimated cost of new work for modifications of 1935 and 1954 are federal cost $166,000,000 (October 1992). This portion is deauthorized. Major Rehabilitation of St. Georges and Summit Bridges was completed in fiscal year 1991 at an approximate federal cost of $20,868,000 (90 price level). Portion of project comprising completion of Delaware City Branch Channel from a point 400 feet east of Fifth Street Bridge to its junction with canal is to be restudied and excluded from foregoing estimate. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: River and Harbor Act of 1954 provided that local interests furnish lands and rights-of-way required for bridges. Assurances accepted and approved February 16, 1955. Requirements for Summit and Reedy Point Bridges have been met.

Terminal facilities: Ample mooring facilities at eastern and western ends of canal and bulkheads at Delaware City and St. Georges were constructed by the United States. A small-boat harbor was provided and a wharf constructed at Chesapeake City. Facilities are considered adequate for existing commerce.

Operations during fiscal year: Maintenance: Work included general maintenance of traffic control television, dispatch service, operation of traffic, administration building, bridges, roadways, grounds, museum, auxiliary works, and periodic bridge inspection. Also included in work was maintenance night lighting, lease of equipment, surveys, environmental monitoring, electrical maintenance, property management, plans and specifications, engineering and design, and supervision and administration. There was also work on the Disposal Material Management Plan, Geographical Information System, Environmental Review Guide for Operations assessment, mosquito control, monitoring data, monitoring stabilization banks, and miscellaneous repairs. There was also maintenance dredging by Weeks Marine, Inc. from December 18, 2000 to March 31, 2001 removing a total of 776,453 cubic yards of material at a total cost of $3,315,452.

9. INLAND WATERWAY, REHOBOTH BAY TO DELAWARE BAY, DE

Location: A tidal canal in southeasterly part of Sussex County, DE It extends 12 miles northward from Rehoboth Bay through high land west of town of Rehoboth to Gordon Lake; thence down Lewes River to its junction with Broadkill River near its mouth. An entrance to the waterway from Delaware Bay is about 4 miles above Cape Henlopen. (See U.S. Coast and Geodetic Survey Charts 379, 1218, and 1219.)

Previous project: A canal along a slightly different route formed a part of projected waterway from Chincoteague Bay, Va. to Delaware Bay, begun in 1886 and abandoned in 1905.

Existing project: This provides for an entrance channel near Lewes 10 feet deep and 200 feet wide protected by two parallel jetties 500 feet apart; thence a channel 10 feet deep and 100 feet wide to South Street Bridge at Lewes, and a basin of the same depth 1,200 feet long and up to 375 feet in width at the latter point; thence a channel 6 feet deep and 100 feet wide (40 feet wide through Deep Cut near Rehoboth Bay) to Rehoboth Bay; a channel 6 feet deep and 100 feet wide from the entrance to Broadkill River; two parallel rubble jetties 725 feet long at the Rehoboth Bay entrance; and the construction of the one highway bridge and one railroad Bridge to Rehoboth. The total length of the section included in the project is about 12 miles.

The extension of the jetties at the Delaware Bay entrance is considered to be inactive and is excluded from the foregoing cost. The cost of the portion was last revised in 1960 and was estimated to be $816,000. Existing project is about 70 percent complete. For details on completed work see page 241 of Annual Report for 1963. Work remaining, extension of existing jetties at Delaware Bay entrance, is considered inactive. The Sheet Pile Jetty at the Delaware Bay entrance was removed during FY 1987. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: Complied with except local interest must furnish suitable terminal facilities and necessary spoil-disposal areas.

Terminal facilities: See page 228, Annual Report 1962.

Operations during fiscal year: Maintenance: Work included a boundary monumentation survey from Savannah Ave. Bridge to Rehoboth Bay for the purpose of identifying all land the government holds an interest in, be it by fee or easement right. Also, a continuing contract to remove shoals from within the projects entrance channel (Roosevelt Inlet) to the Savannah Ave. Bridge was awarded to Cottrell Construction Corporation during September 2001.

10. MANASQUAN RIVER, NJ

Location: This small stream flows in eastern part of New Jersey, rises near Freehold, flows easterly and empties into the Atlantic Ocean, about 26 miles south of Sandy Hook. (See U.S. Coast and Geodetic Survey Chart No. 795).

Previous projects: For details see Annual Report for 1909, page 186, and Annual Report for 1938, page 269.

Existing project: A channel 14 feet deep and 250 feet wide, protected by jetties and other works, extending from the Atlantic Ocean to inner end of north jetty, thence 12 feet deep and 300 feet wide to within 700 feet of New York and Long Branch Railroad bridge, thence of same depth and narrowing to 100 feet wide to within 300 feet of bridge; for a widening on northerly side of channel of 200 feet for 3,150 feet and 8 feet deep on south side of channel and for a 27.5-acre anchorage to 12 feet deep about 0.5 miles west of Route 35 highway bridge. Section included in project is about 1.5 miles long. Mean tidal range is 3.7 feet at inner end of inlet and 4 feet at ocean end; mean range of spring tides, 4.4 and 4.8 feet, respectively, irregular fluctuations due to wind and barometric pressure vary from 2.7 feet below to 7.5 feet above mean low water at inner end of inlet. Project, excluding 10-and 12-foot anchorages, cost $518,243. Estimated cost (1958) for 10 and 12-foot anchorages portion of project considered inactive is $504,000. Restoration of bulkheads completed 16 August 1965 at a cost of $117,807. Existing project was completed in June 1963. Dredging 19-acre anchorage south of channel and 27.5-acre anchorage west of highway bridge is in the inactive category. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: River and Harbor Act of 1945 provides that local interests must furnish lands and rights-of-way for construction and future maintenance and hold the United States free from damages. Assurances to date have been complied with.

Terminal facilities: Five landings with a total wharfage of 700 feet used by commercial fishermen, and 7 landings and boat basins for pleasure craft. Existing facilities are considered adequate for present requirements.

Operations during fiscal year: Maintenance: Emergency channel dredging by the U.S. Government hopper dredge Currituck removed 24,000 cubic yards of material at a cost of $190,000.

11. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Section 107, Public Law 86-645.

Name of Project	Cost to 30 Sept. 2001
Plans and Specifications	
Wills Hole Thoro, Pt. Pleasant, NJ	$ 5,860
Feasibility	
Delaware River Phila-Trenton, Fairless Hill	$91,704
Wilmington Harbor, DE	$73,039
Coordination	
Section 107 Coordination Account	$10,014

12. NEW JERSEY INTRACOASTAL WATERWAY

Location: A sea level inland water route approximately parallel with New Jersey coast, extends from Atlantic Ocean at Manasquan Inlet, about 26 miles south of Sandy Hook, NJ to Delaware Bay about 3 miles above Cape May Point. Waterway extends through inlet and up Manasquan River about 2 miles; thence by Point Pleasant Canal through high ground for 2 miles to head of Barnegat Bay. It then passes through a series of bays, lagoons, and thoroughfares along New Jersey coast to Cape May Harbor; thence across Cape May County to Delaware Bay through a land cut by way of New England Creek basin. (See U.S. COAST and Geodetic Survey Charts, 234, 795, 825, 826, 827, 1216, 1217, 1218, and 1219.)

Existing project: This provides for a channel 12 feet deep at mean low water and generally 100 feet wide, extending from the Atlantic Ocean at Manasquan Inlet, NJ to Delaware Bay above Cape May, NJ, by the further improvement of Manasquan River and Inlet, NJ, and the present New Jersey Intracoastal Waterway, and by the construction of a canal of similar dimensions from Cape May Harbor to Delaware Bay via the New England Creek basin, with adequate jetties at the Delaware Bay entrance. The total length of the project is about 117 miles. The unconstructed portion of the project, deepening the channel from 6 feet to 12 feet from the Atlantic Ocean at Manasquan Inlet to Cape May Harbor, was deauthorized on 1 January 1990, by PL 99-662. Normal tide range in sections of the waterway remote from inlets is 0.5 foot.

Estimated cost for new work is $71,549 (July 1969), exclusive of $1,824,940 Navy Department funds and $99,000 contributed by local interests. Portion of project extending from Manasquan River to Cape May Harbor is to be restudied and excluded from new work costs estimate. Estimated cost of this portion is $6,470,000 (July 1954). Existing project was adopted by 1945 River and Harbor Act (H. Doc 133, 76th Cong., 1st Sess.) Latest published map is in project document. River and Harbor Act of 1946 (Public Law 525, 79th Cong., 2nd Sess., as extended by Public Law 240, 82d Cong.), authorized use for a period not to exceed 6 years, of funds from appropriations heretofore or hereafter made for maintenance and improvement of rivers and harbors, for maintenance of canal from Cape May Harbor to Delaware Bay constructed as an emergency wartime project with Navy Department funds, including cost of maintaining temporary railroad and seashore highway bridges over canal.

A canal 12 feet deep and 100 feet wide from Cape May Harbor to Delaware Bay was completed in 1942 as well as two parallel stone jetties at Delaware Bay entrances and a temporary highway and a railroad bridge in 1944, all with Navy Department funds. The project between Ottens Harbor and Richardson Channel and from that point to Cape May are being maintained to 10 feet and 12 feet, respectively, since they were originally dredged to these depths by the State. Section 860 of the Water Resources Development Act of 1986 authorized, for preconstruction engineering and design, a 15 foot depth in the Vicinity of Cape May Harbor, titled as Cold Spring Inlet. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: The project is subject to the conditions that the State of New Jersey cede to the United States all right, title, and interest that it has acquired to lands, easements, rights-of-way, and structures other than bridges for the Bayhead-Manasquan Canal; that the State of New Jersey furnish, free of cost to the United States, all lands, easements, rights-of-way, and disposal areas required for construction of the Cape May Canal and for improvement of the proposed waterway and for their subsequent maintenance; that local interests provide,

maintain, and operate suitable bridges over the waterway; that the State of New Jersey donate to the United States the navigation aids in use on the present New Jersey Intracoastal Waterway; and that the State of New Jersey hold and save the United States and its agents free from any claims for damages resulting from the work of improvement. Compliance with these conditions was completed January 15, 1954, except that local interests are required to furnish disposal areas for the construction and the subsequent maintenance of the proposed improvements.

Terminal facilities: See Annual Report for 1962.

Operations during fiscal year: Maintenance: Work included general maintenance, surveys, and inspection of Point Pleasant Canal bulkhead. Maintenance dredging by Barnegat Bay Dredging Company removed 449,000 cubic yards of material at a total cost of $1,348,000. Real Estate inspections were also conducted.

13. RECONNAISSANCE AND CONDITION SURVEYS

Reconnaissance Surveys	Survey Conducted
Schuylkill River (above Fairmount Dam), PA	December 2000
Woodbury Creek, NJ	July 2001

Condition Surveys	Survey Conducted
Cedar Creek, DE	May 2001
Lewis & Rehoboth Canal, DE	March 2001
Mispillion River, DE	May 2001
Murderkill River, DE	May 2001
Schuylkill River (above Fairmount Dam), PA	July 2001

14. REGIONAL SEDIMENT MANAGEMENT PILOT PROGRAM

Location: Cape May Inlet, Cape May County, New Jersey.

Existing project: The beaches immediately east and west of Cape May Inlet experience problems related, respectively, to an excess and a deficit of sediment supply. Because the Cape May beachfill is located just downdrift of the Cape May Inlet jetties (completed in 1911), sediment transfport from the north into the area is interrupted and erosion has been the predoinat historical trend. Between 1943 and 1977, accretion as high as 1,000 feet occurred along the ocean frontage just south of Hereford Inlet. Prior investigations indicate that sand appears to be bypassing the inlet on the ebb-tidal shoal.

A Federal beach erosion control project was initiated in 1990 for the US Coast Guard Base and the City of Cape May, immediately west of Cape May Inlet. Sand for construction and subsequent nourishment of this project has been obtained from an offshore borrow site, but that site has an insufficient reserve of material for future nourishment needs. The District is investigating alternative sources for the approximate 200,000 cubic yards a year demand at Cape May City and the USCG Base. Contrasting the erosion on the downdrift (southwest) side of Cape May Inlet is the accumulation of sediment on the updrift beaches of Wildwood Crest and Wildwood City. The excess of sediment supply there has resulted in at least two problems: storm water outfalls that do not drain because of beach width accretion, and excessive beach widths that make recreational beach user access to the “shoreline” problematic.

The District is presently evaluating a range of options for removing sediment from the updrift beaches for use in nourishing the beach downdrift of Cape May Inlet. Two essentially different concepts are being considered for remedy of the sediment excess/deficit problems on the updrift/downdrift shorelines adjacent to Cape May Inlet. The first would involve a more-or-less continuous (low) level of sand bypassing using a fixed bypass plant across Cape May Inlet. Excess sand would be obtainded for Wildwood and Wildwood Crest by either mechanical pan scraping or small hydraulic plant and stockpiled at the bypass plant location. The second approach considered for bypassing sediment across Cape May Inlet involves periodic (i.e., once per year, or less frequently) dredging from the east jetty fillet by means of a conventional floating hydraulic pipeline dredge. In this plan, sediment would be bypassed across the inlet infrequently at large volume rates, as compared to the “continuous,” low-volume transport rate associated with the first plan (above.) This alternative would still require a method of obtaining sand from the Wildwood and Wildwood Crest beaches, such as the mobile pan scraper concept.

Local cooperation: Local and Federal interests must furnish lands and rights-of-way for construction and future maintenance and hold the United States free from damages. Assurances to date have not been obtained.

Operations during fiscal year: Maintenance: Preparing plans and specifications, environmental assessment, and permitting.

15. SCHUYLKILL RIVER, PA

Location: Rises in Schuylkill County, PA, flows

generally southeasterly 150 miles, and empties into Delaware River at Philadelphia, PA (See U.S. Coast and Geodetic Survey Charts 295 and 280.)

Previous project: For details see page 325, Annual Report for 1932.

Existing project: This provides for a channel 33 feet deep and 400 feet wide in Delaware River the mouth and within the river to 29th Street, .75 mile above the mouth; thence the same depth and 300 feet wide to Passyunk Avenue Bridge, 3.5 miles above the mouth; thence 26 feet deep and 300 feet wide to Gibson Point, 4.5 miles above the mouth; and thence 22 feet deep and 200 feet wide to University Avenue Bridge, 6 miles above the mouth, including widening at bends. The total length of the section included in the project is about 6.5 miles. All depths refer to the plane of mean low water. The extreme tidal range, due to freshets and prolonged heavy winds, is about 14 feet.

The cost for new work for the completed existing project was $7,440,000. Existing project was completed in September 1962. For details see Annual Report for 1962. (See Table 3-B at end of chapter for acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: The River and Harbor Act of July 24, 1946, imposed the condition that the City of Philadelphia agree to remove 60,000 cubic yards, place measurement, of material annually from that portion of those portions of the project which the District Engineer may designate until such time as adequate municipal sewage-treatment works are constructed and placed in effective operation. Compliance with this condition has been met through the completion of sewage-treatment works by the City of Philadelphia. All other requirements have been fully complied with.

Terminal facilities: There are 38 wharves, piers, and docks within limits of improvement. Facilities are considered adequate for existing commerce. (For further details see Port Series No. 7, Revised 1967, Corps of Engineers.)

Operations during fiscal year: Maintenance: Work included channel examination surveys.

16. WILMINGTON HARBOR, DE

Location: Formed by Christina River, which rises in New Castle County, DE, flows northeasterly 16 miles, passing through the City of Wilmington, DE, and empties into Delaware River about 29 miles below Philadelphia, PA (See U.S. Coast and Geodetic Survey Chart 294.)

Previous project: For details see page 1785 of Annual Report for 1915 and page 308 of Annual Report for 1938.

Existing project: This provides for a channel 38 feet deep and 400 feet wide from west edge of Delaware River ship channel to Lobdell Canal, a distance of about 1.2 miles; thence 21 feet deep and 250 feet wide for the distance of .8 mile to the mouth of Brandywine River; thence the same depth and 200 feet wide for a distance of about 2.2 miles to a point approximately 4.2 miles from the Delaware River ship channel; thence decreasing to a depth of 10 feet in a distance of 750 feet to Penn Central Railroad bridge No. 4; and thence 7 feet deep and 100 feet wide for a distance of about 5.6 miles to Newport, DE, approximately 9.9 miles above Delaware River ship channel, including a turning basin 38 feet deep opposite the Wilmington Marine terminal and extending upstream from the mouth to Lobdell Canal, 320 feet wide, 2,900 feet long on the north side of the channel and decreasing to a length of 2,000 feet on the north side of the basin. It also provides for the removal of about 1,200 feet of the outer end of a stone-filled, pile-and-timber crib jetty constructed 2,150 feet long on the north side of the entrance; for a steel sheet-pile jetty 2,300 feet long, with 120-foot inshore wing, on the south side of the entrance, and for a V-shaped stone-filled pile-and-timber jetty at the mouth of Brandywine River 430 feet along the north side of Brandywine and 260 feet long on the Christina. Depths refer to the plane of mean low water. The extreme tidal range, due to prolonged heavy winds, is about 13 feet. Existing project was completed in 1962. (For details see page 222, Annual Report 1962). Authority from Section 107 of the River and Harbor Act of July 1960 provide for channel and turning basin deepening from 35 to 38 feet and the turning basin widened from 200 to 320 feet. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: Fully complied with.

Terminal facilities: There are 18 piers, wharves, and docks within limits of the improvement. Facilities considered adequate for existing commerce. (For further details see Port Series No.8, revised 1966-Corps of Engineers.)

Operations during fiscal year: Maintenance: Routine maintenance of disposal areas, channel examination surveys, and contract administration. Also,

a contract for maintenance dredging of both the 35-foot and 38-foot project channels was completed by Norfolk Dredging Company on 31 January 2001. As a result of this work, 465,688 cubic yards of material were removed at a cost of $1,092,355.

Shore Protection:

17. BRIGANTINE INLET TO GREAT EGG HARBOR INLET (ABSECON ISLAND, NJ)

Location: This project is located along the Atlantic Coast of New Jersey in Atlantic County, approximately 50 miles east of Philadelphia, Pennsylvania. It is 8.1 miles in length, extending from Absecon Inlet to Great Egg Harbor Inlet.

Existing project: The project consists of providing 6.2 million cubic yards of initial beachfill, with subsequent periodic nourishment of 1.6 million cubic yards every three years, for a 200-foot-wide berm at elevation 8.5 feet above mean low water and a dune to elevation 16 feet above mean low water for Atlantic City, and a 100-foot-wide berm at elevation 8.5 feet above mean low water and a dune to 14 feet above mean low water for Ventnor, Margate and Longport along 8.1 miles of shoreline. The plan also includes 0.3 miles of bulkhead construction along the Absecon Inlet frontage of Atlantic City. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2001.)

Local Cooperation: The existing authority for this project is Section 101 (b) (13) of WRDA 1996. Federal participation in the proposed project is recommended and contingent on the local sponsor signing the Project Cooperation Agreement that identifies the required items of cooperation.

Operations during fiscal year: New work: Work included real estate studies, engineering and design and negotiation of the Project Cooperation Agreeement with the local sponsor.

18. CAPE MAY INLET TO LOWER TWP., NJ

Location: The project is located in Cape May County and extends along the beach front from the western side of Cape May Inlet to the boundary of Lower Township, and Cape May City.

Existing project: The plan, as presented in HD 94-641, was authorized for the Phase I Design Memorandum Stage of Advance Engineering and Design by Section 101a of the Water Resources Development Act of 1976, proposes the following features: breakwater on the updrift side of Cape May Inlet; beachfill from Cape May Inlet to Cape May Point; provision of a dune with sand fence and grass from Cape May Inlet to Wilmington Avenue; construction of two groins in Cape May City and seven groins in Lower Township; inclusion of all groins comprising the existing project; and periodic nourishment of the beaches and maintenance of the dune and dikes.

The Phase I GDM, completed in August 1980 and approved by the Chief of Engineers in December 1981, determined that only beach erosion control measures in Cape May City are warranted. The plan proposed in that document consists of modifying the existing navigation project for Cape May Inlet to provide; a weir-breakwater at Cape May Inlet with construction being deferred pending demonstration of need; two new groins at Trenton and Baltimore Avenues in Cape May City; placement of beachfill between Cape May Inlet and the terminal groin at Third Avenue in Cape May City; maintenance of two new groins and existing groins in Cape May; periodic beach maintenance with material obtained from deposition basin on the northeast side of Cape May Inlet; and institution of a beach monitoring program in Lower Township area. Work for the initial beachfill was accomplished as follows; USGS feeder beach fiscal year 1989, Cape May City groin fiscal year 1990, and Beachfill Cape May City fiscal year 1991. Project estimate cost (October 2000) is Federal, $155,900,000, which includes $53,900,000 of Coast Guard contributions. Non-Federal costs are $11,100,000.

The existing authority is for Phase I studies as provided by Section 101(a) of the Water Resources Development Act of 1976 in accordance with the provision of House Document 94-641. Continuation of planning and engineering for this proposed project was initiated in October 1977. The Phase I GDM was completed in August 1980 and approved by the Chief of Engineers in December 1981. Phase II AE&D studies were completed in July 1983. The project was authorized for separable elements under Section 501(a) of the Water Resources Development Act of 1986, PL 99-662. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2001.)

Local cooperation: The State of New Jersey

furnished a letter of intent on 6 May 1981 regarding their willingness to comply with the above items of local cooperation. In addition, a draft Section 221 local cooperation agreement has been coordinated with letter of intent on May 31, 1983 regarding compliance with the items of local cooperation.

Operations during fiscal year: New Work: Work included plans and specifications for beachfill, supervision and administration, hydraulic studies, engineering and design, surveys of the beach, aerial photography, monitoring, sediment sampling, and periodic nourishment.

19. DELAWARE COAST FROM CAPE HENLOPEN TO FENWICK ISLAND, DE (DEWEY BEACH TO REHOBOTH BEACH, DE)

Location: The Rehoboth Beach to Dewey Beach project area stretches for approximately 2 miles along the northern part of the Atlantic Ocean coast of Delaware in Sussex County, Delaware. From north to south the project area includes the Town of Rehoboth Beach, the unincorporated region in front of Silver Lake (under Sussex County jurisdiction), and the Town of Dewey Beach. (See NOAA Nautical Chart Number 12214).

Existing project: The project consists of providing initial beachfill with subsequent periodic nourishment. The proposed plan consists of one continuous project, from the northern end of Rehoboth Beach to the southern border of Dewey Beach, a distance of 13,500 linear feet. Along Rehoboth Beach, the plan provides for a 125-foot wide beach berm at elevation +8.0 feet National Geodetic Vertical Datum (NGVD) and a dune at elevation +14.0 feet NGVD. At Dewey Beach, the project would transition to a 150-foot wide beach berm at elevation +8.0 feet NGVD and a dune at elevation +14.0 feet NGVD. The plan requires the initial placement of 1,354,000 cubic yards of material and subsequent periodic nourishment of approximately 277,000 cubic yards of material every 3 years throughout the 50-year project life to ensure the integrity of the design. The material for the initial construction and subsequent periodic nourishment will be taken from an offshore borrow area. The plan also includes the extension of stormwater outfalls at Rehoboth Beach. Appurtenant project features such as dune grass planting, sand dune fencing, vehicle access ramps, and dune walkovers are included with the plan as well. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to September 30, 2001.)

Local Cooperation: Federal participation in the proposed project is recommended and contingent on the local sponsor signing the Project Cooperation Agreement (PCA) that identifies the required items of local cooperation.

Operations during fiscal year: New Work: Project Cooperation Agreement (PCA) coordination with non-Federal sponsor and engineering and design.

20. DELAWARE COAST PROTECTION, DE

Location: The project is located in Sussex County, Delaware, on the Atlantic Ocean and starts immediately south of Delaware Bay extending in a southerly direction a distance of 24.5 miles to Fenwick Island on the Delaware-Maryland border.

Previous Project: The previous project, adopted as HD 85-216 in 1958 and modified by P.L. 87-874 in 1962, provided for Federal participation in the cost of restoration and subsequent periodic nourishment, and the initial periodic nourishment was completed in 1957 by local interests. The second increment of beach replenishment by local interest was completed in 1963.

Existing project: Provides a sand bypass system and periodic nourishment until 2021. (For details, see S. Doc. 90, 90th Cong. 2nd Sess.) Estimated cost of project (October 2000) is $30,600,000 of which $14,100,000 are federal costs and $16,500,000 are required non-Federal costs. The construction of the feeder beach north of Indian River Inlet was completed in 1973 and nourished in 1978, and 1984. Section 869 of the Water Resources Development Act of 1986 deauthorized the unscheduled portion of the project. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: Assurances of local cooperation were provided by the State of Delaware, January 13, 1981.

Operations during fiscal year: New work: Work included supervision and administration, engineering and design, monitoring, and sand bypassing.

21. GREAT EGG HARBOR INLET & PECK BEACH, NJ

Location: The project is located in Cape May and Atlantic Counties, New Jersey. Great Egg Harbor Inlet,

an unimproved inlet, is about 1.1 miles wide at its narrowest point and provides a tidal connection between the Atlantic Ocean, Great Egg Harbor Bay, the New Jersey Intercoastal Waterway, and Great Egg Harbor River. Peck Beach is occupied in its entirety by the City of Ocean City and extends from Great Egg Harbor Inlet southward to Corson Inlet. The ocean frontage is about eight miles in length.

Existing project: The project consists of providing initial beachfill, with subsequent periodic nourishment, with a minimum berm width of 100 feet at an elevation of 8 feet above mean low water. The beachfill extends from Surf Road southwest to 34th Street with a 1000 foot taper south of 34th Street. This plan required the initial placement of 6,200,000 cubic yards of material and subsequent periodic nourishment of approximately 1,100,000 cubic yards every three years. The material for the initial construction, and periodic nourishment is being taken from the ebb shoal area located approximately 5,000 feet offshore of the Great Egg Harbor Inlet. Additionally, the construction of the project required the extension of 38 storm drainpipes. All work is programmed. Estimated cost for new work (October 2000) Federal share is $417,000,000 and non-Federal is $225,000,000. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2001.)

Local Cooperation: The Local Cooperation Agreement was executed in September 1991 with the State of New Jersey Department of Environmental Protection Agency.

Operations during fiscal year: New work: Work included plans and specifications for beachfill, hydraulic studies, engineering and design, supervision and administration, surveys of the beach, aerial photography, monitoring, sediment sampling, and periodic nourishment.

22. TOWNSEND INLET TO CAPE MAY INLET, NJ

Location: This project is located along the Atlantic Coast of New Jersey in Atlantic County, approximately 50 miles east of Philadelphia, Pennsylvania. The project area is located along the Atlantic Coast of New Jersey, extending approximately 15 miles from Townsends Inlet to Cape May Inlet, including the communities of Avalon, Stone Harbor, and North Wildwood.

Existing project: The recommended plan includes interim shoreline protection projects for Avalon, Stone Harbor and North Wildwood, New Jersey, and an environmental restoration project for Stone Harbor Point, as follows: (1) 4.3 miles of beachfill with a berm width of 150-foot and dune height of +16-feet along with periodic nourishment for Avalon and Stone Harbor; (2) 2.2 miles of revetment construction along Townsends and Hereford Inlets frontages; (3) and the ecosystem restoration of about 107 acres of natural barrier island habitat at Stone Harbor Point including beachfill and dune construction with periodic nourishment and the planting of bayberry and red cedar rousting habitat. The project consists of providing approximately 4 million cubic yards of initial beachfill, with subsequent periodic nourishment of 750,000 cubic yards every three years, for a 150-foot wide berm at elevation 8.5 feet NGVD and a dune to elevation 16 feet NGVD and a crest width of 25 feet.

Local cooperation: The existing authority for this project is WRDA 1999, Section 101 (a) (26) which authorizes the construction of the Townsends Inlet to Cape May Inlet, NJ shore protection project.

Operations during fiscal year: New work: The work included finalizing real estate acquisitions, environmental coordination, finalizing the plans and specifications, and coordination of the Project Cooperation Agreement with the non-Federal sponsor.

Flood Control:

23. BELTZVILLE LAKE, PA

Location: Damsite is on Pohopoco Creek about 4.5 miles upstream from its confluence with Lehigh River and 4 miles east of Lehighton, PA (See Geological Survey Quadrangle Map for Lehighton, PA-1960.)

Existing project: This is a multiple-purpose development project providing water supply, flood control, and recreation. Plan of improvement provides for an earth and rock fill dam 4,200 feet long rising 170 feet above creekbed; a spillway around the north end of dam; and gate control outlet works discharging through a conduit on rock along right abutment. The lake, a unit of comprehensive plan for flood control and other purposes of Delaware River Basin, has a reservoir capacity of 68,250 acre-feet at spillway crest level with 1,390 acre-feet of inactive storage, 39,830 acre-feet for water supply and recreation, and 27,030 acre-feet for flood control. The cost of project was $22,931,400 including $6,100,000 required non-Federal reimbursement for costs allocated to water supply storage during life of project. The construction of the dam and appurtenances was completed in 1971. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end

of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: Project was approved subject to certain requirements of cooperation by local interests as defined in approved House Document. Resolution of Delaware River Basin Commission providing assurances of repayment of water supply and pollution control costs was accepted June 7, 1965. A contract for repayment of water supply costs was signed October 16,1966.

Operations during fiscal year: Maintenance: Normal operation and maintenance of the project continued.

24. BLUE MARSH LAKE, PA

Location: Dam site is on Tulpehocken Creek about 1.5 miles upstream from its confluence with Plum Creek and about 6 miles northwest of Reading, PA (See Geological Survey Quadrangle Sheet, Bernville, PA)

Existing project: This is a multiple-purpose development project providing water supply, flood control, and recreation. Construction started in 1974 and was completed in 1980. The dam is 1,775 feet long and rises 98 feet above creekbed, with spillway about 1,500 feet south of dam, and gate-controlled outlet works discharging through a conduit on rock along right abutment. The lake, a unit of comprehensive plan for flood control and other purposes of Delaware River Basin, has a capacity of 50,010 acre-feet at spillway crest level, with 3,000 acre-feet of inactive storage, 14,620 acre-feet for water supply and recreation, and 32,390 acre-feet for flood control. (For details see H.Doc 533 87th Cong., 2nd Sess.) Costs of project $63,163,791. Existing project was authorized by 1962 Flood Control Act. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2000.) (H. Doc. 533, 87th Cong., 2d Sess., contains latest published maps.)

Local cooperation: Project was approved subject to certain requirements by local interests, as prescribed in House Document cited above. Delaware River Basin Commission on December 29, 1964, adopted a preliminary resolution providing for repayment of water supply costs.

Operations during fiscal year: Maintenance: Normal operation and maintenance of the project continued.

25. EMERGENCY BANK PROTECTION

Emergency Bank Protection Section 14, Public Law 79-526.

Name of Project	Cost to 30 Sept. 2001
Coordination	
Section 14 Coordination	$ 9,125
Feasibility	
East Point , NJ	$24,910
Planning and Design Analysis	
Basket Brook, Hancock, NY	$ 2,954
Beaverkill, NY	$14,930
Bushkill Creek, Palmer Twp, PA	$48,606
Delaware Canal, Paunnacussing Creek, Bucks County	$ 29,659
Fort Mifflin, Phila., PA	$ 9,030
Lackawaxen, PA	$23,051
Manasquan River, Howell Twp, NJ	$81,869
Ocean Gate, Ocean County, NJ	$40,743
Stoney Creek East Norriton, PA	$ 3,043

26. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood control activities pursuant to Section 205, Public Law 838, 80th Congress, as amended (Preauthorization).

Name of Project	Cost to 30 Sept. 2001
Coordination	
Section 205 Coordination	$ 8,076
Planning and Design Analysis	
Assunpink Creek, Trenton, NJ	$22,426
Plans and Specifications	
Little Mill Creek, New Castle City, DE	$42,814
Feasibility	
Chester Creek, PA	$ 9,870

Darby Lansdowne, PA	$ 4,927
Laurel Run, Temple, PA	$14,600
Milford, NJ	$32,597
Mill Creek, Bristol Township, PA	$18,095
Mill Creek, St. Clair, Schuylkill County, PA	$61,630
Mill Creek, Upper Moreland, PA	$77,933
Newton Creek, Collingswood, NJ	$69,985
Pennypack Lower Moreland, PA	$75,810
Perkiomen Creek, Upper Providence, PA	$ 4,971
Pine Mount Creek, NJ	$ 9,939
Port Providence, Montgomery City, PA	$58,844
Wissahickon, PA	$22,066
Upper Mill Creek, Middletown, PA	$17,752

Emergency flood control activities-repair, flood fighting, and rescue work (Public Law 99, 84th Congress, and antecedent legislation).

Fiscal year costs were $236,362 for disaster preparedness.

27. FRANCIS E. WALTER DAM, PA

Location: Reservoir is in northeastern Pennsylvania on Lehigh River between White Haven and Stoddartsville. Dam is about 0.4 mile below mouth of Bear Creek, about 60 miles above confluence of Lehigh River and Delaware River at Easton, PA (See Geological Survey Quadrangle Sheet, Stoddartsville, PA).

Existing project: Plan of improvement authorized by 1946 Flood Control Act (H. Doc. 587, 79th Cong., 2d Sess.) provided for a single-purpose flood control reservoir. Modification of project, authorized by 1962 Flood Control Act (H. Doc.522, 87th Cong., 2d Sess.), provides for a multiple-purpose development for water supply and recreation in addition to present single-purpose flood control project. Plan of improvement requires altering spillway, increasing height of dam, constructing a new intake tower, extending outlet tunnel by addition of a concrete conduit, and constructing new dikes and raising existing dikes. Modified dam will rise 264 feet above riverbed and be 3,500 feet long. Reservoir modification, a unit of comprehensive plan for flood control and other purposes of Delaware River Basin, will have a reservoir capacity of 181,000 acre-feet spillway crest level with 3,000 acre-feet of inactive storage, 70,000 acre-feet for water supply and recreation and 108,000 acre-feet for flood control. Total cost is $186,000,000, estimated Federal cost of new work (October 1993) is $30,000,000 including $156,000,000 required non-Federal reimbursement for costs allocated to water supply storage during life of project after use of this storage is initiated. Project as authorized under the 1946 Flood Control Act was completed June 1961. Settlement for lands was completed October 1962. The advance engineering and design for the modified project is completed. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: None required under 1946 Flood Control Act. Under 1962 Flood Control Act, project was approved subject to certain requirements by local interests, as defined in House Document 522 cited above. The Delaware River Basin Commission expressed its support by a resolution dated 23 April 1980 and reiterated its sponsorship for the modified project in August 1985, October 1985, and July 1988.

Operations during fiscal year: Maintenance: Normal operation and maintenance of the project .

28. GENERAL EDGAR JADWIN DAM AND RESERVOIR, PA

Location: In Dyberry Creek valley in central part of Wayne County, PA, between borough of Honesdale and village of Tanners Falls. Dam is about 3 miles above confluence of Dyberry Creek and Lackawaxen River in Honesdale and 29 miles above confluence of Lackawaxen and Delaware Rivers. (See Geological Survey Quadrangle Sheet, Honesdale, PA.)

Existing project: A single-purpose flood control reservoir with a capacity of 24,500 acre-feet formed by an earth embankment, about 1,225 feet long at crest and rising 109 feet above creek bed. It also has a tunnel with intake structure and a chute-type spillway with a stilling basin in left abutment. Reservoir controls runoff from a drainage area of 65 square miles which is 91 percent of watershed of Dyberry Creek and 39 percent of Lackawaxen River watershed above Honesdale, PA. Construction of project was authorized by 1948 Flood Control Act (H.Doc. 113, 80th Cong., 1st Sess.). Project completed in June 1960. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: Assurances of Compliance with requirements of local cooperation were accepted July 30, 1956. For details see page 251, Annual Report for 1962.

Operations during fiscal year: Maintenance: Normal operation and maintenance of the project .

29. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

To ascertain whether local interests were maintaining and operating completed projects as required, inspections were made as follows:

PROJECT INSPECTION	DATES
Darby Creek, Lansdowne, PA	April 2001
Delaware River, East Branch, NY	October 2000
Equinunk River, Equinunk, PA	October 2000
Lehigh River, Allentown, PA	May 2001
Pennypack Creek, Hatboro, PA	April 2001
Perkiomen Creek, Hereford, PA	April 2001
Pocono Creek, Stroud, PA	March 2001
Port Jervis, NY, Delaware River Ice Division	May 2001
Rancocas Creek, Mt. Holly, NJ	May 2001

Local interests are satisfactorily maintaining and operating projects in accordance with regulation. Costs during the period were $32,463.

30. INSPECTION OF NON-FEDERAL LEVEES

Inspection of non-federal levees were conducted at the following sites:

PROJECT INSPECTION	DATES
East Stroudsburg, PA	August 2001
Gibbstown, NJ	September 2001
Stroudsburg, PA	August 2001
Weissport, PA	August 2001
Wilmington, DE	June 2001

31. MOLLY ANN'S BROOK, NJ

Location: Approximately 12 miles northwest of New York City, located in Haledon, Prospect Park and Paterson, New Jersey along Molly Ann's Brook from the mouth below Totowa Avenue in Paterson upstream to Church Street in Haledon.

Previous project: None.

Existing project: The recommended plan modified the channel a total length of 2.5 miles. The channel includes both trapezoidal channel sections and walled sections. Five bridges were replaced and one building was removed. Estimated cost of project (October 1997) is $ 38,800,000 of which $20,600,000 are Federal costs and $18,200,000 are required non-Federal costs. Costs are in accordance with Section 401(a) of the Water Resources Development Act (Public Law 99-662), dated November 17, 1986. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing Project to Sept. 30, 2001.)

Local cooperation: Fully complied with. A Project Cooperation Agreement was executed on December 16, 1993. The State of New Jersey Department of Environmental Protection and Energy, the non-federal sponsor, provided a portion of their support through the Intermodal Surface Transportation Efficiency Act of 1991.

Terminal facilities: None.

Operations during fiscal year: New work: Work included engineering and design, supervision and administration, and repairs due to Hurricane Floyd.

32. NATIONAL EMERGENCY PREPAREDNESS

The total fiscal year cost for this category amounted to $94,715.

33. PROMPTON LAKE, PA

Location: In Lackawaxen River Valley in central part of Wayne County, PA, between borough of Prompton and village of Aldenville. Dam is within corporate limits of Prompton, 4 miles upstream from Honesdale, PA, and approximately 30 miles above confluence of Lackawaxen and Delaware River. (See Geological Survey Quadrangle Sheet, Honesdale, PA)

Existing project: Plan of improvement authorized by 1948 Flood Control Act (H. Doc. 113, 80th Cong., 1st Sess.) provides for a single-purpose flood control reservoir. Modification of project authorized by 1962 Flood Control Act (H. DOC 522, 87th Cong., 2nd Sess.) provides for a multiple-purpose development for water supply and recreation in addition to present single-purpose flood control project. Plan of improvement requires construction of control tower with gates and service bridge, placing an impervious blanket on valley walls and floor upstream from dam, widening spillway, and clearing land and relocating roads in reservoir. Dam, completed under 1948 Flood Control Act

which will not be modified, is 1,230 feet long and rises 140 feet above riverbed. Existing spillway, cut into rock of right abutment, will be modified and present uncontrolled outlet works discharging into a concrete conduit along right bank, and will be provided with gates and a control tower. Reservoir modification, a unit of comprehensive plan for flood control and other purposes of Delaware River basin has a capacity of 52,000 acre-feet: 3,500 acre-feet for inactive storage, 28,200 acre-feet for water supply and recreation, and 20,300 acre-feet for flood control. Estimated Federal cost of new work (October 1994) is $3,510,000 including $54,990,000 required non-Federal reimbursement for costs allocated to water supply storage during life of project after use of this storage is initiated. Project as authorized under the 1948 Flood Control Act was completed in November 1960. (For details, see page 358, Annual Report for 1963.) Work accomplished under the 1962 Flood Control Act was preconstruction engineering and design. (See Table 3-B at end of Chapter for Acts authorizing existing project. See table 3-A at end of chapter for total cost for existing project to Sept. 30, 2001.)

Local cooperation: Project modification was approved subject to certain requirements by local interests, as defined in House Document 522 cited above. Assurances of compliance under Flood Control Act of 1948 have been met. Delaware River Basin Commission on March 18, 1966, gave their view that the need for water supply was not urgent at that time. However recent studies conducted by DRBC have determined that there is now a need for water supply. In August 1983, DRBC expressed their strong support for the project modification. Preconstruction engineering and design was initiated in 1966, suspended in 1968 and again suspended in and resumed in 1986.

Operations during fiscal year: Maintenance: Normal operation and maintenance at the project continued. Continued design memo on spillway efficiency.

34. SCHUYLKILL RIVER PARK, PHILADELPHIA, PA

Location: The Schuylkill River Park is located about six nautical miles from the confluence of the Delaware and Schuylkill River in Center City Philadelphia. Philadelphia represents the urban gateway of 1,900 square mile Schuylkill Watershed.

Existing Project: This proposed project is the final phase of a three-phase master plan, which the City of Philadelphia and other local interest have implemented. This phase focuses on the restoration of a greenway to include a 3,800-foot long promenade and amenities enabling and experience with values of the river corridor and provide opportunities for active and passive recreation. The greenway will eliminate urban blight and increase the viability of the surrounding residential, institutional and commercial communities.

Corps of Engineers assistance on the project is authorized by Section 564 (c) of the Water Resources Development Act of 1996 (PL 104-303) and Section 348 of the Water Resources Development Act of 1999, which amended the authorization amount to $4,000,000. The total cost of the entire project is estimated at $6,400,000. (See Table 3-B at end of chapter for acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local Cooperation: Under cost-share provisions for environmental restoration, non-Federal sponsors are required to provide 25% of project costs to include lands, easements and rights of way and bear all costs of operation and maintenance of the project after construction.

Operations during fiscal year: New Work: Prepared decision document, negotiated and executed Project Cooperation Agreement (PCA), and initiated construction.

Environmental Restoration:

35. ENVIRONMENTAL IMPROVEMENT WORK UNDER SPECIAL AUTHORIZATION

Activities pursuant to Section 1135, Public Law 99-662.

Name of Project	Cost to 30 Sept. 2001
Coordination	
Coordination Account Funds	$ 8,671
Initial Appraisals	$ 15,627
Preliminary Restoration Plan	$ 32,559
Feasibility	
Bark Camp Run Restoration Project, PA	$ 57,285
Ft. Mifflin	$ 2,851
Grays Ferry, Schuylkill River, PA	$143,052
Restoration of Grass Dale, DE	$ 34,213

Planning & Design Analysis

Fairmont Dam, PA	$ 4,893
Farnham Park, Camden, NJ	$ 4,929
Pond Creek, NJ	$ 54,800

36. SOUTH CENTRAL PENNSYLVANIA ENVIRONMENTAL IMPROVEMENT, PA

Location: The south central Pennsylvania area includes twenty-one counties defined by the authorizing legislation. The program area within the Philadelphia District consists of Pike, Monroe, and Lackawanna Counties.

Existing project: Section 313 of the Water Resources Development Act of 1992, as amended, established a pilot program for providing environmental assistance to non-Federal interests in south central Pennsylvania. Such assistance may be in the form of design and construction assistance for water-related environmental infrastructure and resource protection and development projects, including projects for wastewater treatment and related facilities, water supply, storage treatment, distribution facilities, and surface water resource protection and development. The Federal share may be provided in the form of grants or reimbursements to the sponsor. FY 98 was the first year of funding for three project names in the Energy and Water Appropriations documents. Total project funds earmarked were $7,650,000 for work within Philadelphia District. The House Report (105-190) provides $10,000,000 in design and construction assistance under the Section 313 Program for projects in Lackawanna, Lycoming, Susquehanna, Wyoming, Pike and Monroe Counties in Pennsylvania. The Conference Report (105-271) specifies the funds among eight specific projects. Appropriations for those projects in the Philadelphia District are: Westfall Municipal Sewage Authority, Pike County; Jefferson Township, Lackawanna County; Township of Tobyhanna Sewer Authority, Monroe County. (See Table 3-B at end of chapter for acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

Local cooperation: The non-Federal sponsors are required to provide 25% of project costs including lands, easements, rights-of-way, and relocations and bear all costs of operation, maintenance, replacement, repair and rehabilitation of the project after construction.

Operations during fiscal year: New work: Continued design on Municipal Authority of the Westfall Township, PA and Jefferson Township, Lackawanna County, PA. Completed construction on Tobyhanna Township, Monroe County, PA. Design was initiated on Municipal Authority of the Borough of Milford, PA.

37. SOUTHEASTERN PENNSYLVANIA, PA

Location: Section 566 of the Water Resources Development Act (WRDA) of 1996 authorized a pilot program to provide for environmental assistance (design and construction) to non-Federal interests for publicly owned facilities in the five (5) county area surrounding the city of Philadelphia.

Previous project: None.

Existing project: Pilot program established for providing environmental assistance to non-Federal interests in southeastern Pennsylvania. Assistance under this section may be in the form of design and construction assistance for water-related environmental infrastructure and resource protection and development projects in southeastern Pennsylvania, including projects for waste water treatment and elated facilities, water supply and related facilities, and surface water resource protection and development. The four pilot programs are the East Central Incinerator, Wissinoming, Logan (Feltonville), and Delaware Canal. (See Table 3-B at end of chapter for acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2001.)

The East Central Incinerator property is located on Municipal North Piers 31 through 35 at 601 North Columbus Boulevard (at the intersection of North Columbus Boulevard and Spring Garden Street), in Philadelphia, Philadelphia County, Pennsylvania. The Delaware River bounds the property on the north and east. The property is bounded to the south by the Delaware River and a parking lot. North Columbus Boulevard bounds the property on the west. The East Central Incinerator property consists of approximately seven (7) acres of land which currently accommodates the Incinerator Building, a Service Building (built on piles in 1968 at the north side of the former Municipal pier 34), an electric switch building, a scale house, two (2) small parking attendant buildings and a parking lot.

Wissinoming and Logan (Feltonville) sections of Philadelphia are located in north/northeast Philadelphia. These areas are experiencing severe subsidence of

residential properties that were built many years ago on fill material placed over old watercourses. Breaks in the pipes provide an avenue for the fill material to be transported by ground water away from building foundations. In an effort to determine the cause and extent of the subsidence, a topographic map will be prepared and compared to historic maps to show how much fill was placed in the old watercourses. Borings will be taken in the fill to confirm topographic data and to determine the engineering characteristics of the fill material. Water and sewer lines will also be mapped to determine if such lines are present in areas where subsidence has occurred and to predict where subsidence may occur due to leaking water lines and deteriorating sewer lines.

Local cooperation: 1. East Central Incinerator: The non-Federal sponsors are required to provide 25% of the project costs to include lands, easements and rights of way and bear all costs of operation and maintenance of the project after construction. The non-Federal sponsors receive credit for any design work completed prior to the federal involvement. 2. Wissinoming, Logan (Feltonville), and Delaware Canal studies are 100% Federal expense. Design and construction cost sharing will be in accordance with policy guidance.

Terminal facilities: None.

Operations during fiscal year: New Work: East Central Incinerator - Execution of design agreement, completed plans and specifications and coordinate d construction Project Cooperation Agreement (PCA). Delaware Canal – Completed plans and specifications. Wissinoming and Logan (Feltonville) sinking home studies were completed and released.

Miscellaneous:

38. AQUATIC ECOSYSTEM RESTORATION WORK UNDER SPECIAL AUTHORIZATION

Activities pursuant to Section 206, Public Law 104-303.

Name of Project	Cost to 30 Sept. 2001
Coordination	
Section 206 Coordination Account Funds	$ 8,031
Preliminary Restoration Funds	$ 37,181
Feasibility	
Lake Ontelauntee, PA	$ 9,585
Planning & Design Analysis	
Assunpink Creek, NJ	$ 4,973
Cuddebackville, NY	$108,073
Lake Wallenpaupack, PA	$ 4,977
Morgan Cove, Paupack, PA	$ 4,977
Pike Creek, DE	$ 3,972
Rancocas Creek, Fishways, NJ	$ 18,800
Ridley Creek, Dismal Run, PA	$ 4,892
Sawkill Creek, Pike City, PA	$ 27,031
Wyomissing Creek, PA	$ 7,851
Plans and Specifications	
Batso Fishladder, NJ	$ 64,922

39. WETLAND/OTHER AQUATIC HABITAT WORK UNDER SPECIAL AUTHORIZATION

Activities pursuant to Section 204, Public Law 102-560.

Name of Project	Cost to 30 Sept. 2001
Construction	
Sedge Islands Protection, NJ	$1,355,188
Planning & Design Analysis	
Seabreeze Cumberland County, NJ	$ 4,967

General Investigations:

40. COLLECTION AND STUDY OF BASIC DATA

Cost and expenditures during the period for flood plain information studies were $254,672.

41. PRECONSTRUCTION ENGINEERING AND DESIGN

Cost and expenditures during the period totaled $2,150,649.

42. SURVEYS

Cost for the period were $7,576 for shoreline protection studies, $382,561 for special studies: a total of $390,137.

TABLE 3-A COST AND FINANCIAL STATEMENT

See Section in Text	Projects	Funding	FY98	FY99	FY00	FY01	SEPT. 30, 2001
1.	Barnegat Inlet, NJ	New Work					
	(Regular	Approp.	—	—	—	—	31,083,849
	Funds)	Cost	—	—	—	—	30,994,363
		Maint.					
		Approp.	1,228,500	1,129,000	2,020,567	1,717,338	25,795,338
		Cost	1,275,068	1,110,503	2,044,553	1,710,229	25,773,806
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	13,917,000
		Cost	—	—	—	—	13,793,140
2.	Cold Spring	New Work					
	Inlet, NJ	Approp.	—	—	—	—	879,275
	(Regular	Cost	—	—	—	—	879,275
	Funds)	Maint					
		Approp.	368,000	156,305	482,569	394,335	8,174,860
		Cost	373,298	158,750	482,569	394,335	8,171,958
		Rehab.					
		Approp.	—	—	—	—	1,134,346
		Cost	—	—	—	—	1,134,346
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	150,000[8]
		Cost	—	—	—	—	150,000[8]
3.	Delaware River	New Work					
	between Phila-	Approp.	—	—	—	—	72,147,800[2]
	delphia, PA and	Cost	—	—	—	—	72,147,800[2]
	Trenton, NJ	Maint					
	(Regular	Approp.	3,834,000	388,000	2,622,824	2,999,562	59,290,423[3]
	Funds)	Cost	3,794,627	423,647	2,635,021	2,997,772	59,285,645[3]
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	565,000
		Cost	550,000	—	—	—	565,000
4.	Delaware River	New Work					
	Mainstem Channel	Approp.	—	1,500,000	1,176,000	1,654,000	2,676,000
	& Deepening	Cost	—	302,405	2,254,649	1,641,677	2,557,054
5.	Delaware River,	New Work					
	PA, NJ, and DE	Approp.	—	—	—	—	57,879,872[4]
	Philadelphia	Cost	—	—	—	—	57,879,872[4]
	to the Sea	Maint.					
	(Regular	Approp.	12,856,000	17,092,302	16,847,568	14,419,605	542,206,783[17]
	Funds)	Cost	12,778,810	17,221,925	16,889,458	14,375,369	541,800,263[17]
		Rehab.					
		Approp.	—	—	—	—	508,324
		Cost	—	—	—	—	508,324
6.	Delaware River	New Work					
	Vicinity of Camden	Approp.	—	—	—	—	4,616,000[1]
	(Regular Funds)	Cost	—	—	—	—	4,589,130[1]
		Maint.					

TABLE 3-A COST AND FINANCIAL STATEMENT

See Section in Text	Projects	Funding	FY98	FY99	FY00	FY01	SEPT. 30, 2001
		Approp.	—	—	—	1,077,631	3,262,562
		Cost	—	—	—	1,077,644	3,261,386
	(Contributed Funds)	New Work					
		Approp	—	—	—	—	2,513,131
		Cost	—	—	—	—	2,321,078
7.	Indian River	New Work					
	Inlet and Bay, DE	Approp.	—	—	—	—	511,210[16]
	(Regular	Cost	—	—	—	—	511,210[16]
	Funds)	Maint.					
		Approp.	50,000	219,000	6,972	5,990	5,022,957
		Cost	37,048	218,861	4,549	5,990	5,021,385
		Rehab.					
		Approp.	—	—	—	—	1,323,775
		Cost	—	—	—	—	1,323,775
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	210,000
		Cost	—	—	—	—	210,000
8.	Inland Waterway	New Work					
	from Delaware River	Approp.	—	—	—	—	132,535,591[6]
	to Chesapeake Bay,	Cost	—	—	—	—	132,532,598[6]
	DE and MD	Maint.					
		Approp.	14,768,000	11,748,000	14,270,832	22,061,744	355,114,801[7]
	(Regular	Cost	14,641,638	12,043,064	14,348,534	22,032,500	354,938,260[7]
	Funds)	Rehab.					
		Approp.	—	—	—	—	17,356,292
		Cost	—	—	—	—	17,356,290
9.	Inland Waterway,	New Work					
	Rehoboth Bay to	Approp.	—	—	—	—	561,514
	Delaware Bay, DE	Cost	—	—	—	—	561,514
	(Regular	Maint.					
	Funds)	Approp.	197,000	170,873	58,000	415,255	5,272,131
		Cost	191,575	183,428	58,396	415,196	5,272,125
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	60,000
		Cost	—	—	—	—	60,000
10.	Manasquan	New Work					
	River, NJ	Approp.	—	—	—	—	8,008,278[21,22]
	(Regular	Cost	—	—	—	—	8,008,278[21,22]
	(Funds)	Maint.					
		Approp.	186,500	—	—	190,000	5,307,819[23]
		Cost	189,607	—	—	190,000	5,315,599[23]
12.	New Jersey	New Work					
	Intracoastal	Approp.	—	—	—	—	71,549[9]
	Waterway	Cost	—	—	—	—	71,549[9]
	(Regular	Maint.					
	Funds)	Approp.	2,415,000	1,523,000	2,292,165	2,057,232	56,416,564[10]

TABLE 3-A COST AND FINANCIAL STATEMENT

See Section in Text	Projects	Funding	FY98	FY99	FY00	FY01	SEPT. 30, 2001
		Cost	2,369,179	1,581,219	2,293,803	2,062,528	56,404,181[10]
		Rehab.					
		Approp.	—	—	—	—	1,196,581
		Cost	—	—	—	—	1,196,581
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	99,000
		Cost	—	—	—	—	99,000
14.	Regional Sediment	Maint.					
	Management Pilot	Approp.	—	—	—	93,400	93,400
	Programr	Cost	—	—	—	78,345	78,345
15.	Schuylkill	New Work					
	River, PA	Approp.	—	—	—	—	3,334,007[11]
	(Regular Funds)	Cost	—	—	—	—	3,334,007[11]
		Maint.					
		Approp.	1,470,000	582,000	1,514,421	1,406,409	38,875,123
		Cost	1,457,158	566,780	1,544,325	1,381,217	38,839,467
16.	Wilmington	New Work					
	Harbor, DE	Approp.	—	—	—	—	1,954,725[12,5]
	(Regular	Cost	—	—	—	—	1,954,725[12,5]
	Funds)	Maint.					
		Approp.	3,728,000	3,257,000	7,107,246	6,432,612	107,566,583
		Cost	3,654,402	3,347,868	7,106,138	6,437,921	107,544,339
	(Contributed	NewWork					
	Funds)	Approp.	—	100,000	—	—	160,000[15]
		Cost	—	—	100,000	—	160,000[15]
17.	Brigantine Inlet to	New Work					
	Great Egg Harbor Inlet,	Approp.	—	—	371,000	290,000	661,000
	NJ (Abecon Island, NJ)	Cost	—	—	201,603	385,688	587,291
	(Regular Funds)						
18.	Cape May Inlet	New Work					
	to Lower Twp., NJ	Approp.	263,000	930,000	1,458,000	100,000	18,800,176
	(Regular	Cost	146,607	1,047,917	1,458,028	99,996	18,398,662
	Funds)	New Work					
	(Contributed	Approp.	—	—	225,000	—	3,249,558
	Funds)	Cost	20,693	16,918	166,102	69,084	3,208,115
19.	Delaware Coast Cape	New Work					
	Henlopen to Fenwick	Approp.	—	—	273,000	214,000	487,000
	Island, DE	Cost	—	—	76,910	109,142	186,052
	(Dewey/Rehoboth, DE)						
	(Regular Funds)						
20.	Delaware Coast	New Work					
	Protection	Approp.	210,000	217,000	222,000	254,000	5,782,953[20]
	(Regular	Cost	248,133	222,314	222,041	253,988	5,361,942[20]

TABLE 3-A COST AND FINANCIAL STATEMENT

See Section in Text	Projects	Funding	FY98	FY99	FY00	FY01	SEPT. 30, 2001
	Funds)	Maint.					
		Approp.	—	—	—	—	215,350
		Cost	—	—	—	—	215,350
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	1,268,671[18]
		Cost	—	—	—	—	1,259,002[18]
21.	Great Egg Harbor	New Work					
	Inlet & Peck	Approp.	1,658,000	139,000	359,000	5,100,000	36,630,000
	Beach, NJ	Cost	1,672,833	139,146	356,563	5,099,795	36,617,342
	(Regular Funds)						
	(Contributed	New Work					
	Funds)	Approp.	525,000	—	—	4,885,767	23,589,820
		Cost	1,752,978	37,020	78,791	4,476,158	23,172,184
22.	Townsend Inlet	New Work					
	to Cape May	Approp.	—	—	—	352,000	352,000
	Inlet, NJ	Cost	—	—	—	209,253	209,353
	(Regular Funds)						
	(Contributed	New Work					
	Funds)	Approp.					
		Cost					
23.	Beltzville	New Work					
	Lake, PA	Approp.	—	—	—	—	22,931,831
	(Regular Funds)	Cost	—	—	—	—	22,931,831
		Maint.					
		Approp.	747,000	866,000	937,320	934,856	16,537,765
		Cost	725,359	921,574	948,030	932,644	16,500,486
24.	Blue Marsh	New Work					
	Lake, PA	Approp.	—	—	—	—	63,180,300
	(Regular	Cost	—	—	—	—	63,180,299
	Funds)	Maint.					
		Approp.	1,986,000	2,172,509	2,224,752	2,173,419	34,863,974
		Cost	2,028,329	2,273,844	2,260,124	2,128,660	34,778,769
27.	Francis E.	New Work					
	Walter Dam, PA	Approp.	—	—	—	—	12,449,682[13]
	(Regular	Cost	—	—	—	—	12,437,323[13]
	Funds)	Maint.					
		Approp.	663,000	564,000	865,773	613,450	16,491,172
		Cost	613,735	650,390	875,544	603,928	16,477,499
28.	General Edgar	New Work					
	Jadwin Dam and	Approp.	—	—	—	—	4,073,105
	Reservoir, PA	Cost	—	—	—	—	4,073,105
	(Regular	Maint.					
	Funds)	Approp.	211,000	170,000	208,679	256,772	4,660,815
		Cost	204,667	193,290	208,608	257,241	4,628,589

TABLE 3-A COST AND FINANCIAL STATEMENT

See Section in Text	Projects	Funding	FY98	FY99	FY00	FY01	SEPT. 30, 2001
31.	Molly Ann's Brook, NJ	New Work					
	(Regular	Approp.	7,090,000	4,765,000	300,000	300,000	21,813,000
	Funds)	Cost	8,177,256	4,788,378	411,959	9,443	21,497,254
	(Contributed	New Work					
	Funds)	Approp.	1,700,000	1,800,000	600,000	1,141,000	7,441,000[19]
		Cost	1,192,715	1,710,058	1,275,000	1,427,456	7,211,030[19]
33.	Prompton Lake	New Work					
	(Regular Funds)	Approp.	—	—	—	—	4,609,483[14]
		Cost	—	—	—	—	4,609,483[14]
		Maint.					
		Approp.	541,000	691,000	948,608	664,354	11,959,603
		Cost	509,760	745,515	952,782	657,673	11,948,439
34.	Schuylkill River Park,	New Work					
	Phila., PA	Approp.	—	75,000	—	303,000	378,000
	Regular Funds)	Cost	—	54,694	19,246	206,198	280,138
36.	South Central, PA	New Work					
	Environmental	Approp.	4,650,000	3,200,000	—	2,503,449	10,353,449
	Improvement, PA	Cost	132,107	1,162,292	1,068,472	117,347	2,480,218
	(Regular Funds)						
37.	Southeastern	New Work					
	Pennsylvania, PA	Approp.	939,000	102,000	2,516,000	126,000	3,683,000
	(Regular Funds)	Cost	36,373	13,271	386,215	197,663	633,522

* Total adjusted to correct discrepancies in prior years.

1. Includes $1,950,906 for 30 and 37 foot projects.
2. Includes $2,489,173 for new work for previous projects, $105,000 for preauthorization studies and minus $142,015 adjustment new work toDelaware River, Philadelphia to Sea project from this project under 1954 modification.
3. Includes $552,720 for maintenance for previous projects, and $685,000 Jobs Bill Funds.
4. Excludes $12,976,054 for new work for previous projects and $142,015 adjustment from Delaware River, Philadelphia to Trenton, NJ under 1954 modification.
5. Excludes $412,400 spent for Continuing Authority project.
6. Includes $10,709,755 for new work for previous projects.
7. Includes $6,903,748 for maintenance for previous projects, and $9,500 Job Bill Funds.
8. Includes $50,000 Navy Department Funds & $100,00 Contributed Funds.
9. Excludes $1,824,940 Navy Department Funds.
10. Excludes $286,953 Navy Department Funds expended for maintenance.
11. Includes $525,000 for previous projects.
12. Includes $402,121 for new work for previous project, and $206,177 emergency relief funds.
13. Includes $40,000 appropriated and $61,551 expended under Code 710 Recreation Facilities.
14. Includes $63,000 appropriated and $61,551 expended under Code 710 Recreation Facilities, excluded $23,600 preauthorization studies under 1948 modification.
15. Excludes $213,336 spent on Continuing Authority project.
16. Excluded $10,000 for previous projects.
17. Includes $1,025,409 for maintenance of previous projects, and $8,000 Jobs Bill funds.
18. Excludes $85,000 cash and $130,000 services furnished during preconstruction planning.
19. Includes $112,000 for work done for the State of New Jersey.
20. Includes $704,000 AE&D.
21. Includes $39,000 for new work for previous projects.
22. Includes $555,809 for previous projects.
23. Includes $2,054 for maintenance for previous projects.

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	BARNEGAT INLET, NJ (See Section 1 of Text)	
Aug. 30, 1935	An 8-foot depth through inlet to Oyster Creek Channel across inner bar, 10-foot depth through outer bar and for jetties.	Rivers and Harbors Committee Doc. 19, 73rd Cong., 2nd sess.[1]
Aug. 26, 1937	A channel of suitable hydraulic characteristics from gorge to Oyster Creek Channel, and thence to deep water in bay.	Rivers and Harbors Committee Doc.85, 74th Cong., 2nd sess.[1]
Jul. 24, 1946	Maintenance dredging of channel to connect main inlet channel with Barnegat City Harbor.	H. Doc. 358, 79th Cong., 2nd sess.
Jul. 2, 1985	Construction of a parallel, 4270 foot rubble mound south jetty and dredging a channel 10 feet deep, 300 feet wide, and 11,300 feet long.	H. Doc. 236, 99th Cong., 2nd sess.
	COLD SPRING INLET, NJ (See Section 2 of Text)	
Mar. 2, 1907	An inlet channel 25 feet deep and jetties.	H. Doc. 388, 59th Cong., 2nd sess.
Mar. 2, 1945	A 20-foot channel to deep water in harbor	H. Doc. 262, 77th Cong., 1st sess.
	DELAWARE RIVER BETWEEN PHILADELPHIA, PA AND TRENTON, NJ (See Section 3 of Text)	
Jul. 3, 1930	A channel 28 feet deep, 300 feet wide between Allegheny Ave., Philadelphia, PA and Delair Bridge	Rivers and Harbors Committee Doc. 3, 71st Cong., 1st sess.
Aug. 30, 1935	Channel 25 feet deep from Delair Bridge to Trenton, NJ, and maintenance of 12-foot channel from upper end of 25-foot project to Penn Central R.R. Bridge at Ferry St., Trenton.	Rivers and Harbors Committee Doc. 11, 73rd Cong., 1st sess.
Aug. 30, 1935[2]	Auxiliary channel, 20 feet deep east of Burlington Island.	Rivers and Harbors Committee Doc. 66, 74th Cong., 1st sess[1]
Aug. 26, 1937	A cross channel 8 feet deep, opposite Delanco, NJ	Rivers and Harbors Committee Doc. 90, 74th Cong., 2nd sess.
Jul. 24, 1946	Anchorage at mouth of Biles Creek	H. Doc. 679, 79th Cong., 2nd sess.
Sept. 3, 1954	A channel 40 feet deep and 400 feet wide between Allegheny Ave., Philadelphia, PA, and upstream end of Newbold Island, thence 35 feet deep to Trenton Marine Terminal and turning basin to 800 feet wide. Relocate channel at railroad bridge at Delair and suitably reconstruct bridge. Construct necessary bank protection works; and eliminate authorized anchorage near mouth of Biles Creek, PA.	H. Doc. 358, 83d Cong., 2nd sess.[1]

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	DELAWARE RIVER MAINSTEM CHANNEL & DEEPENING (See Section 4 of Text)	
October 1992	The 45-foot deep project was authorized for construction.	WRDA 1992 P.L. 102-580 Section 101 (6)
	Allows for certain credits to the non-Federal sponsor and the payment of disposal fees, and the development of a disposal area management plan.	WRDA 1999 P.L. 106-53, Section 308
	DELAWARE RIVER, PA, NJ, AND DE, PHILADELPHIA TO THE SEA (See Section 5 of Text)	
Jun. 25, 1910	Channel 35 feet deep from Allegheny Ave., Philadelphia, PA to Delaware Bay.	Doc. 733, 61st Cong., 2nd sess.
Jul. 3, 1930	Anchorages 35 feet deep at Port Richmond and Mantua Creek, a 30 foot anchorage at Gloucester, NJ and extend 1,000 foot channel in Philadelphia Harbor to Horseshoe Bend.	H. Doc. 304, 71st Cong., 2nd sess.[1]
Aug. 30, 1935[2]	An anchorage 35 feet deep at Marcus Hook, PA	Rivers and Harbors Committee Doc. 5, 73rd Cong., 1st sess.
Jun. 20, 1938[3]	A channel 37 feet deep from Philadelphia - Camden Bridge to Navy Yard, thence 40 feet deep to deep water in Delaware Bay.	S. Doc. 159, 75th Cong. 3rd sess.[1]
Mar. 2, 1945[4]	A 37-foot depth channel from Allegheny Ave., Philadelphia, PA to Philadelphia-Camden Bridge	H. Doc. 580, 76th Cong. 1st sess.[1]
Mar. 2, 1945[4]	A 37-foot depth in an enlargement of anchorage near Mantua Creek and Marcus Hook.	H. Doc. 340, 77th Cong. 1st sess.[1]
Mar. 2, 1945[4]	Maintain enlarged channel opposite Philadelphia Navy Yard.	Specified in Act. H. Doc. 358, 83rd Cong. 2nd sess.[1]
Sept. 3, 1954	A channel from Allegheny Ave., to Naval Base 40 feet deep, 400 feet wide along west side of channel through Philadelphia Harbor and 500 feet wide through Horseshoe Bend.	
Jul. 3, 1958	Anchorages at Reedy Point, Deepwater Point, Marcus Hook, and Mantua Creek 40 feet deep and 2,300 feet wide with mean lengths of 8,000, 5,200,13,650 and 11,500 feet respectively.	H. Doc. 185, 85th Cong., 1st sess. 74th Cong., 1st sess.[1]
	DELAWARE RIVER VICINITY OF CAMDEN, NJ	

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	(See Section 6 of Text)	
Mar. 2, 1919	A depth of 30 feet from Newton Creek to Kaighn Point, thence 18 feet to Cooper Point.	H. Doc. 1120, 63rd Cong., 2nd sess.
Jul. 3, 1930	Extending the 30-foot depth upstream to Berkely Street Terminal.	H. Doc. 111, 70th Cong., 1st sess.
Mar. 2, 1945	A depth of 37 feet in front of the Camden Marine Terminal.	H. Doc. 353, 77th Cong.,
Oct. 20, 1988	A depth of 40 feet in front of the Camden Marine Terminal.	1st sess., WRDA 1988
	INDIAN RIVER INLET AND BAY, DE (See Section 7 of Text)	
Aug. 26, 1937	A 15-foot inlet channel, steel and stone jetties, 6 foot channel from end of inlet channel to deep water in the bay and authority to modify interior inlet channel.	Rivers and Harbors Committee Doc. 41, 75th Cong., 1st sess.
Mar. 2, 1945	A 9-foot channel from inlet to Old Landing, including basin, and 4-foot channel to highway bridge at Millsboro.	H. Doc. 330, 76th Cong., 1st sess.[1]
	INLAND WATERWAY FROM DELAWARE RIVER TO CHESAPEAKE BAY, DE & MD (See Section 8 of Text)	
Aug. 30, 1935	A sea level channel 27 feet deep, 250 feet wide from Delaware River to Elk River and 400 feet wide down Elk River and Chesapeake Bay to deep water at or near Pooles Island; alter existing bridges over canal; enlarge Delaware City Branch Channel to 8 feet deep and 50 feet wide, with a basin same depth and revetment of both banks east of Fifth Street; enlarge anchorage and mooring basin in Back Creek to 400 feet wide, 1,000 feet long and 12 feet deep; extend jetties at Reedy Point; and construct bulkheads.	H. Doc. 201, 72nd Cong., 1st sess. and Rivers and Harbors Committee Docs. 18 and 24, 736 Cong., 2nd sess.[1]
Aug. 7, 1939	Construct a 4-lane high-level fixed highway bridge at or near St. Georges.	Public Law 310, 76th Cong., 1st sess.
Sept. 3, 1954	A channel 35 feet deep and 450 feet wide from Delaware River through Elk River and Chesapeake Bay.	S. Doc. 123, 83rd Cong., 2nd sess.[1]
Aug. 30, 1935	For an 8-foot depth and width increased to 150 feet in Delaware Bay.	H. Doc. 275, 73rd Cong., 2nd sess.[1].
	INLAND WATERWAY, REHOBOTH BAY TO DELAWARE BAY, DE (See Section 9 of text)	
Jul. 25, 1912	For a 6-foot depth canal to connect Rehoboth Bay and Delaware Bay.	H. Doc. 823, 60th Cong., 1st sess. and Rivers and Harbors Committee Doc. 51, 61st Cong., 3rd sess.
Aug. 30, 1935	For a 6-foot depth entrance near Lewes, for jetties, for widening the canal from Broadkill River to	Rivers and Harbors Committee Doc. 56,

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	Lewes and basin.	75th Cong., 2nd sess.[1]
Mar. 2, 1945	For a 10-foot depth from Delaware Bay to Lewes and in basin, and for extending jetties. [5]	H. Doc. 344, 77th Cong., 1st sess.[1]
	MANAQUAN RIVER, NJ (See Section 10 of Text)	
Jul. 3, 1930	Channel 8 feet deep and provision of works designed to secure channel.	H. Doc. 482, 70th Cong., 2nd sess.
Aug. 30, 1935	Widening channel on northerly side.	Senate Committee Doc., 74th Cong., 1st sess.
Mar. 2, 1945	Deepening channel to 12 and 14 feet, 10 and 12 foot anchorages. [6]	H. Doc. 356, 77th Cong., 1st sess.
	NEW JERSEY INTRACOASTAL WATERWAY (See Section 12 of Text)	
Jul. 1, 1945	A channel 12 feet deep at mean low water and generally 100 feet wide, extending from the Atlantic Ocean at Manasquan Inlet, NJ to Delaware Bay above Cape May, NJ. Construction of a canal of similar dimensions from Cape May Harbor to Delaware Bay via the New England Creek basin, with adequate jetties at the Delaware Bay entrance.	H. Doc. 133, 76th Cong., 1st Sess. Rivers and Harbors Committee Doc. 525 79th Cong., 2nd sess.
Nov. 17, 1986	To increase the depth of the 2,000, foot reach of the Waterway in Cape May County to 15 feet.	WRDA of 1986
	REGIONAL SEDIMENT MANAGEMENT PILOT PROGRAM (See Section 14 of Text)	
	To remedy of the sediment excess/deficit problems on the Updrift/downdrift shorelines adjacent to Cape May Inlet.	Energy and Water Development Approp. Act of 2002, P.L. 107-66
	SCHUYLKILL RIVER, PA (See Section 15 of Text)	
Aug. 8, 1917	Depths of 35 feet from mouth to Girard Point thence 30 feet, 26, and 22 feet to University Avenue Bridge, Philadelphia.	H. Doc. 1270, 64th Cong., 1st sess.
Jul. 3, 1930	A depth of 30 feet instead of 35 feet between the mouth and the conditional restoration and maintenance of the channel belowPassyunk Ave.,	Rivers and Harbors Committee Doc. 40, 71st Cong., 2nd sess[1]
	channel dimensions between Passyunk Ave., and[1] by the United States.	
Jul. 24, 1946	A depth of 33 feet from the channel in Delaware River to Passyunk Ave., restoration of the project channel dimensions between Passyunk Ave., and University Ave., and full maintenance of the entire project.	H. Doc. 699, 79th Cong., 2nd sess[1]
	WILMINGTON HARBOR, DE (See Section 16 of Text)	

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
Jun. 3,1896	Depths of 21, 10 and 7 feet and jetties.	H. Doc. 66, 54th Cong., 1st sess. Annual Report, 1897 p. 12501
Jul. 25,1912	Purchase or construct a dredge and auxiliaries including a wharf and depot, and maintenance of project.	H. Doc. 359, 62nd Cong., 2nd sess.
Sept. 22, 1922	Entrance channel and basin with 25-foot depth and construction by local interests of new south jetty.	H. Doc. 114, 67th Cong., 1st sess. and S. Committee Print, 68th Cong., 1st sess.
Jul. 3, 1930	A 30-foot depth between Delaware River and Lobdell Canal and modification or removal of a portion of north jetty.	Rivers and Harbors Committee Doc. 20, 71st Cong., 2nd sess.
Aug. 30, 1935[7]	Completion of new south jetty by the United States subject to provision that city of Wilmington reimburse the United States for cost, without interest, of any part of structure that may subsequently be occupied and utilized for city activities.	Rivers and Harbors Committee Doc. 32, 73rd Cong., 2nd sess.
Oct. 17, 1940	Permit temporary occupancy by city of Wilmington of any part of south jetty for city activities under revocable license, provided occupied portion of jetty is properly maintained without expense to the United States.	H. Doc. 658, 76th Cong., 3rd sess.
Jul. 14, 1960	A 35-foot depth between Delaware River ship channel and Lobdell Canal including turning basin of same depth, opposite Wilmington Marine Terminal, 200 feet wide, 2,900 feet long on north side of channel, and 2,000 feet long on north side of basin.	H. Doc. 88, 86th Cong., 2nd sess.
	BRIGANTINE INLET TO GREAT EGG HARBOR INLET, NJ (ABSECON ISLAND, NJ) (See Section 17 of Text)	
Oct. 12, 1996	Consists of providing 6.2 million cubic yards of initial beachfill, with subsequent periodic nourishment of 1.6 million cubic yards every three years, for a 200-foot-wide berm at elevation 8.5 feet above mean low water and a dune to elevation 16 feet above mean low water for Atlantic City, and a 100-foot-wide berm at elevation 8.5 feet above mean low water and a dune to 14 feet above mean low water for Ventnor, Margate and Longport along 8.1 miles of shoreline. The plan also Includes 0.3 miles of bulkhead construction along the Absecon Inlet frontage of Atlantic City.	Section 101 (b) (13) of WRDA 1996
	CAPE MAY INLET TO LOWER TOWNSHIP, NJ	

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	(See Section 18 of Text)	
	Consists of beach fill; dune fill; new groins; main tenance of existing groins; rehabilitation of an existing seawall; and a breakwater with weir and deposition basin at Cape May Inlet.	Rivers & Harbors Act of 1968
Nov. 17, 1986	Project may be constructed separately or in combination with any other feature of the project.	WRDA of 1986
	DELAWARE COAST CAPE HENLOPEN TO FENWICK ISLAND, DE (DEWEY/REHOBOTH, DE) **(See Section 19 of Text)**	
Oct. 12, 1996	Provides for beachfill with subsequent periodic nourishment. The plan consists of one continuous project, from the northern end of Rehoboth beach to the southern border of Dewey Beach, a distance of 13,500 linear feet. Along Rehoboth Beach, the plan provides for a 125-foot wide beach berm at elevation +8.0 feet NGVD and a dune at elevation +14.0 feet NGVD. At Dewey Beach, the project would transition to a 150-foot wide beach berm at elevation +8.0 feet NGVD and a dune at elevation +14.0 feet NGVD.	Section 101 (b) (6) of WRDA 1996
Dec. 11, 2000	Project is modified to authorize increased project costs.	Section 307 of WRDA 2000
	DELAWARE COAST PROTECTION **(See Section 20 of Text)**	
	Provides for Federal participation in the cost of restoration and subsequent periodic nourishment, not to exceed 10 years, of the shore from Rehoboth Beach to Indian River Inlet.	H. Doc. 90, 90th Cong., 2nd sess.
Nov. 17, 1986	Project is modified to authorized the construction of sand bypass facilities and stone revetment erosion control measures at Indian River Inlet, DE.[8]	WRDA of 1986 Sec. 869
	GREAT EGG HARBOR INLET & PECK BEACH, NJ **(See Section 21 of Text)**	
Nov. 17, 1986	Project may be constructed separately or in combination with any other feature of the project. Consists of	River and Harbor Act of 1965. WRDA of
1986.	providing initial beachfill, with subsequent periodic nourishment, with a minimum berm width of 100 feet at an elevation of 8 feet above mean low water.	
	TOWNSEND INLET TO CAPE MAY INLET, NJ **(See Section 22 of Text)**	
	Provides for hurricane and storm damage reduction, shore protection, and ecosystem restoration.	Section 101 (a) (26) WRDA of 1999

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	BELTZVILLE LAKE, PA (See Section 23 of Text)	
	Provides for multiple-purpose development for water supply flood control and recreation	H. Doc. 522, 87th Cong., 2nd sess.
	BLUE MARSH LAKE, PA (See Section 24 of Text)	
	Provides for multiple purpose development for water supply, flood, control, and recreation. Site is located on Tulpehocken Creek about 1 1/2 miles up-stream from its confluence with Plum Creek and about six miles northwest of Reading, PA.	H. Doc. 522, 87th Cong., 2nd sess.
	FRANCIS E. WALTER DAM, PA (See Section 27 of Text)	
	Provided for a single-purpose flood control reservoir	H. Doc. 587, 79th Cong., 2nd sess.
	Provides for a multiple-purpose development for water supply and recreation.	H. Doc 522, 87th Cong., 2nd sess.
	GENERAL EDGAR JADWIN DAM AND RESERVOIR, PA (See Section 28 of Text)	
	A single-purpose flood control reservoir with a capacity of 24,500 acre-feet formed by an earth embankment.	H. Doc 113, 80th Cong., 1st sess.
	MOLLY ANN'S BROOK, NJ (See Section 31 of Text)	
Nov. 17, 1986	Modify Channel with a total length of 2.5 miles miles. Channel will include both trapezoidal channel sections and walled sections. Five bridges will be replaced and one building will removed.	WRDA of 1986
	PROMPTON LAKE, PA (See Section 33 of Text)	
	Provides for a single-purpose flood control reservoir.	H. Doc. 113, 80th Cong., 1st sess.
	Provides for multiple-purpose development for water supply and recreation in addition to present single-purpose flood control project.	H. Doc. 522, 87th Cong., 2nd sess.
	SCHUYLKILL RIVER PARK, PHILADELPHIA, PA (See Section 34 of Text)	
	Authorized appropriated amount is increased. Authorized $4 million to provide technical, planning, design, and construction assistance.	WRDA 1996 Section 564 (c)
	SOUTH CENTRAL PENNSYLVANIA ENVIRONMENTAL IMPROVEMENT, PA (See Section 36 of Text)	
	Pilot program providing environmental assistance to non-Federal Interests in South Central Pennsylvania.	Section 313, WRDA of 1992

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	Provides $10 million in design and construction assistance under the Section 313 progam.	H. Report 105-190
	Specifies the funds among eight specific projects.	Conference Report 105-271
	SOUTHEASTERN PENNSYLVANIA, PA (See Section 37 of Text)	
	Pilot program providing for environmental assistance (design and construction) to non-Federal interests for publicly owned facilities in the five (5) county area surrounding the City of Philadelphia.	Section 566, WRDA of 1996
	"Brownfields" initiative to investigate to spur the revitalization of these properties and return them to productive use.	Section 104 (d)(1) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980

1. Contains latest published maps.
2. Also Public Works Administration September 6, 1933, and Emergency Relief Administration, May 28, 1935.
3. Channel 37 feet deep and 600 feet wide from Naval Base to Philadelphia-Camden Bridge, deferred for restudy.
4. Channel 37 feet deep and 600 feet wide from Philadelphia-Camden Bridge to Allegheny Ave. deferred for restudy.
5. Extension of jetties considered to be active.
6. The 10 and 12 foot anchorages are considered inactive.
7. Also May 28, 1935, under Emergency Relief Administration.
8. Deauthorized the remaining portion of the project.

TABLE 3-C OTHER AUTHORIZED NAVIGATION PROJECTS

Active Projects	Status	For Last Full Report See Annual Report For	Construction	Cost to Sept. 30, 2001 Operation and Maintenance
Absecon Creek, NJ	COMPLETED	1989	11,935	84,186*
Absecon Inlet, NJ	COMPLETED	1990	534,209[16]	5,985173[17]
Alloway Creek, NJ[1]	COMPLETED	1989	21,398	55,117
Aquatic Plant Control	INACTIVE	1975	87,594	—
Big Timber Creek, NJ	COMPLETED	1989	58,665[2]	71,925*
Broadkill River, DE	COMPLETED	1976	68,228	243,641
Cedar Creek, NJ	ACTIVE	1999	256,100	560,813
Chesapeake and Delaware Canal, St. Georges Bridge Replacement, DE	COMPLETED	2000	—	122,299,786
Cohansey River, NJ	COMPLETED	1995	146,756[20]	3,749,983
Cooper River, NJ[1]	COMPLETED	1989	33,102	396,528*
Delaware Bay to Millville	COMPLETED	—	143,984[21]	161,913
Millville fixed bridge to upper end of project	SEE TABLE 3-F	—	—	—
Delaware River, Pennsville, NJ	COMPLETED	—	256,624	—
Dennis Creek, NJ[1]	INACTIVE	1897	4,701	—
Double Creek, NJ[1]	COMPLETED	1912	7,800	—[4]
Harbor of Refuge	COMPLETED	1964	5,162,230[18]	1,169,014[19]
Goshen Creek, NJ[1]	INACTIVE	1905	15,359	870
Ice Harbor at Marcus Hook, PA[1,5]	INACTIVE	1928	208,964	14,336
Ice Harbor at New Castle, DE[1,5]	INACTIVE	1898	224,704	—
Inland Waterway from Chincoteague Bay to Delaware Bay	COMPLETED	1981	168,412[11]	98,360[12]
Leipsic River, DE[1]	INACTIVE	1931	36,956	32,345
Little Egg Harbor, NJ[1,3]	INACTIVE	—[6]	15,048	—
Little River, DE	COMPLETED	1980	12,016	288,310
Mantua Creek, NJ	COMPLETED	1966	169,687[7]	339,340*
Maurice River, NJ	ACTIVE	1997	110,000	1,577,194
Mispillion River, DE	ACTIVE	1999	738,839[26]	4,482,884[27]
Murderkill River, DE	ACTIVE	2000	37,630	3,090,525
Neshaminy State Park** Harbor, PA	COMPLETED	1968	128,203[14]	54,601
Oldmans Creek, NJ	COMPLETED	1941	31,188	32,125
Pepper Creek, DE**	COMPLETED	1989	138,094[15]	38,988*
Raccoon Creek, NJ	COMPLETED	1994	83,665[13]	368,001
Salem River, NJ	ACTIVE	2000	6,701,764[28]	3,981,369[29]
Schuylkill River above				

TABLE 3-C OTHER AUTHORIZED NAVIGATION PROJECTS

Active Projects	Status	For Last Full Report See Annual Report For	Construction	Cost to Sept. 30, 2001 Operation and Maintenance
Fairmount Dam, PA[1]	COMPLETED	1955	4,291,810	—[4]
Smyrna River, DE		1949	—	—
Delaware River to Wharf at Smyrna Landing[9]	COMPLETED	—	198,844	197,327
Wharf at Smyrna Landing to fixed bridge.	SEE TABLE 3-F	—	—	—
Toms River, NJ	ACTIVE	1996	10,050	262,485
Tuckerton Creek, NJ	ACTIVE	1999	60,242	1,307,669
Waterway from Indian River Inlet to Rehoboth Bay, DE	ACTIVE	1997	—	340,104
Woodbury Creek, NJ[1]	COMPLETED	1940	27,093[10]	56,474

Deferred Projects	Status	For Last Full Report See Annual Report For	Construction	Cost to Sept. 30, 2001 Operation and Maintenance
St. Jones River, DE		1961	—	—
Delaware Bay to Lebanon[1,8]		—	207,102	66,093
Jetties and new entrance at mouth	DEFERRED	—	—	—

1. Completed.
2. Excludes $50,000 contributed funds expended for new work.
3. Abandonment recommended in House Doc. 467, 69th Congress,1st Sess.
4. Maintenance assumed by local interests.
5. Harbor not now required by commerce.
6. Last appropriation for project was in 1852. No information is at hand relative to work done.
7. Includes $3,000 for new work for previous projects.
8. Includes $54,590 new work and $28,935 maintenance funds expended on previous projects.
9. Includes $55,085 new work and $22,723 maintenance funds expended on previous projects.
10. Includes $2,950 new work funds expended on previous projects.
11. Entire amount expended on previous projects repealed in 1905.
12. Excludes $2,000 contributed funds and includes $25,330 for maintenance for previous project.
13. Encludes $757 new work funds expended on previous projects.
14. Excludes $327,957 contributed funds allotted expended for new work.
15. Excludes $38,988 non-Federal funds.
16. Includes $116,497 for new work on previous projects.
17. Includes $2,489,173 for maintenance for previous projects.
18. Includes $2,749,452 for new work for previous projects.
19. Excludes $1,089 for reconnaissance and condition surveys fiscal year 1963.
20. Includes $36,000 for new work for previous projects.
21. Includes $43,000 new work funds expended on previous projects.
22. Includes $1,950,906 for 30 and 37 foot projects.
23. Includes $39,000 for new work for previous projects.
24. Includes $555,809 for previous projects.
25. Inlcudes $2,054 for maintenance for previous projects.
26. Includes $148, 798 for new work on previous projects.
27. Includes $61,172 for maintenance on previous projects.
28. Includes $55,809 for new work funds expended on previous project.
29. Includes $1,285 for reconnaissance and condition surveys in FY 1957, $1,792 Operations and Maintenance cost incurred for preparation of environmental impact statement, and $48,000 expended for maintenance on previous projects.

* Operation and maintenance figure includes cost incurred for preparation of environmental impact statements.

** Projects authorized by the Chief of Engineers.

TABLE 3-D OTHER AUTHORIZED SHORE PROTECTION PROJECTS

Project	Status	For Last Full Report See Annual Report For	Construction	Cost to Sept. 30, 2001 Operation and Maintenance
Brigantine Island	INACTIVE*	—	—	—
Townsends Inlet and Seven Mile Beach, NJ	INACTIVE*	—	—	—

* NO CURRENT YEAR FUNDS.

TABLE 3-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Status	For Last Full Report See Annual Report For	Construction	Cost to Sept. 30, 2001 Operation and Maintenance
Allentown, Lehigh River, PA	COMPLETED	1961	1,615,581	—[1]
Bethlehem, Lehigh River, PA	COMPLETED	1966	4,520,995	—[1]
Glen Foerd, PA	COMPLETED	1999	998,860	—
Hay Creek, Birdsboro, PA	INACTIVE	1984	335,299	—
Mt. Holly, NJ	COMPLETED	1946	283,655	—[1]
Pottstown, PA	ACTIVE	1984	487,366	—
Tamaqua, PA	ACTIVE	1990	628,467[2]	—

1. Maintenance assumed by local interest as required by authorizing project.

2. Transferred from Baltimore District in FY 1989.

TABLE 3-F DEAUTHORIZED PROJECTS

Navigation Projects	For Last Full Report See Annual Report For	Date And Authority	Federal Funds Expended	Contributed Funds Expended
Appoquinimink River, DE[1]	1934	3 Oct 78 HD 95-351	$78,243	—
Delaware County, PA	1931	PL 99-662 52 Stat. 323	$ 7,139	—
Maurice River, NJ Millville fixed bridge to upper end of project[2]	1948	Section 12 PL 93-251	—	—
Oldmans Creek, NJ[3]	1941	2 Nov 79 Section 12 PL 93-251	$63,313	—
Rancocas River, NJ[4]	1942	2 Nov 79 Section 12 PL 93-251	$57,590	—
Smyrna River, DE[5] Wharf at Smyrna Landing to fixed bridge.	1949	2 Nov 79 HD 95-157	$396,169	—

Shore Protection Projects	For Last Full Report See Annual Report For	Date And Authority	Federal Funds Expended	Contributed Funds Expended
Atlantic City, NJ	1972	HD 538 918	$2,083,289	—
Barnegat Light, NJ	1964	HD 208 918	$ 70,908	—
Cape May City, NJ	1961	3 Sep 54 HD 206 918	$ 22,957[7]	—
Corson Inlet and Ludlam Beach, NJ	1978	—	$ 314,400	—
Hereford Inlet	—	—	—	—
Long Beach Island, NJ	1964	14 Jul 60 HD 208 918	$ 40,665	—
Ocean City, NJ	1969	HD 184 918	$ 395,831[9]	—

TABLE 3-F DEAUTHORIZED PROJECTS

Shore Protection Projects	For Last Full Report See Annual Report For	Date And Authority	Federal Funds Expended	Contributed Funds Expended
Rehoboth Beach to Indian River Inlet, DE	1965	HD 216 918	$326,116	—

Flood Control Projects	For Last Full Report See Annual Report For	Date And Authority	Federal Funds Expended	Contributed Funds Expended
Aquashicola Reservoir, PA	1963	17 Nov 86 PL 99-662 46 Stat., 918	—	—
Chester River, Delaware County, PA	1931	17 Nov 86 PL 99-662 52 Stat., 323		
Delaware River, Mouth of Neversink	1917	5 Aug 77 HD 94-192	—	—
Lehigh River at Bethlehem, PA[6]	1966	2 Nov 79 Section 12 PL 93-251	$ 4,520,995	—
Maiden Creek Reservoir, PA	1963	17 Nov 86 PL 99-662 46 Stat., 918	—	—
Tocks Island, PA, NJ, and NY[8]	1979	23 Oct 62 PL 87-87	$65,106,260[10]	—
Tocks Island (Relocation of U.S. Route 209 only) PA[8]	1979	23 Oct 62 PL 87-874	$ 195,223	—
Trexler Lake, PA	1981	17 Nov 86 PL 99-662 76 Stat., 1180	—	—

1. Includes $36,973 new work, and $41,270 for maintenance.
2. There is no need now for this portion of the project.
3. Includes $31,188 new work, and $32,125 for maintenance.
4. Includes $44,500 new work, and $13,090 for maintenance.
5. Includes $143,759 new work, $55,085 previous project, $174,602 for maintenance, and $22,723 maintenance, previous project.
6. Maintenance assumed by local interest.
7. Excludes $58,585 Accelerated Public Works funds expended for extention to two groins.
8. National Parks and Recreation Act of 1978 terminated Corps authority to proceed with the project. Legislation would be required to proceed with the project.
9. Excludes cost of $1,146,325 to local interests and $272,766 Federal participation expended under Public Works Acceleration Program for extention of five existing groins completed 11 May 1964.
10. Includes $3,489,088 for AE&D.

BALTIMORE, MD DISTRICT

This district comprises the watershed of Susquehanna River and its tributaries from headquarters in south central New York State through central Pennsylvania to its mouth in Chesapeake Bay; watershed of the Potomac River and its tributaries from headquarters in Maryland, eastern West Virginia, and Northern Virginia to its mouth in Chesapeake Bay; District of Columbia; and southwestern portion of Delaware. It includes that portion of Chesapeake Bay and its tributaries north of Smith Point, MD, on western shore of the bay, and includes that portion of Maryland between Chesapeake and Atlantic Ocean.

IMPROVEMENTS

NAVIGATION

1. BALTIMORE HARBOR AND CHANNELS, MD AND VA

Location. Baltimore Harbor is at the head of the navigable portion of Patapsco River about 12 miles from Chesapeake Bay. The Patapsco River rises near the town of Westminster in Carroll County, MD, and flows generally southeast for about 65 miles to enter Chesapeake Bay. (See National Ocean Survey Chart 12278.)

Existing project.

a. A uniform main channel depth of 50 feet between Cape Charles, VA, and Fort McHenry at Baltimore, MD, with dimensions as follows: (1) Cape Henry Channel: 50 feet deep and 1,000 feet wide from the 50-foot depth curve in the Atlantic Ocean to that depth in Chesapeake Bay, a distance of 3.0 miles; (2) York Spit Channel: 50 feet deep and 1,000 feet wide connecting the 50-foot depth curves in Chesapeake Bay near York Spit, a distance of 18.4 miles; (3) Rappahannock Shoal Channel: 50 feet deep and 1,000 feet wide connecting the 50-foot depth curves in the Chesapeake Bay opposite the Rappahannock River, a distance of 10.3 miles; and (4) Baltimore Harbor Approach Channels: 50 feet deep and generally 800 feet wide, widened at the approach and bends, from the 50-foot depth curve in Chesapeake Bay opposite the mouth of the Magothy River to Fort McHenry on the Patapsco River, a distance of 20.2 miles.

b. Branch channels with dimensions as follows: (1) Connecting Channel to Chesapeake and Delaware Canal Approach Channel: 35 feet deep, 600 feet wide, and 15.6 miles long from the Cutoff Angle in the main channel to the 35-foot depth curves in the natural channel on the east side of Chesapeake Bay which is part of the inland waterway from Delaware River to Chesapeake Bay. The channel includes the Brewerton Extension and Swan Point and Tolchester Channels; (2) Curtis Bay: 50 feet deep, 600 feet wide, and 2.3 miles long from the main channel to and including a turning basin at the head of Curtis Bay; (3) Curtis Creek: (a) a channel, 35 feet deep and generally 200 feet wide, from the 50-foot channel in Curtis Bay to 750 feet downstream of the Pennington Avenue Bridge; (b) a channel, 22 feet deep and generally 200 feet wide, from the 35-foot channel to and along the marginal wharf of the Curtis Bay Ordnance Depot; (c) an irregular shaped 3-acre basin, with a depth of 18 feet, adjacent to the head of the 22-foot channel; (d) a basin, 15 feet deep and 450 feet wide, from the end of the 22-foot channel to the end of the marginal wharf; and (e) a channel, 22 feet deep and 200 feet wide, from the 22-foot channel south of the Baltimore and Ohio Railroad Bridge to the vicinity of Arundel Cove, a distance of 2,800 feet, thence 100 feet wide in Arundel Cove for a distance of 2,100 feet, with an anchorage basin, 700 feet square, adjacent to the channel and southwest of the wharf of the Coast Guard Depot at Curtis Bay; (4) Middle Branch; Ferry Bar East Section: a channel, 42 feet deep and 600 feet wide, from the main channel at Fort McHenry to Ferry Bar, a distance of 1.5 miles; and (5) Northwest Branch: Federal maintenance of 39-foot or 35-foot deep channels after either depth has been provided by local interests: (a) East Channel: a channel, 49 feet deep, 600 feet wide, and 1.0 mile long with a turning basin at the head of the channel from that depth existing at the time of construction; and (b) West Channel: a channel, 40 feet deep, 600 feet wide, and 1.3 miles long with a turning basin at the head of the channel from that depth existing at the time of construction.

c. The following anchorages: (1) Riverview Anchorage No. 2: 30 feet deep, 2400 feet long, and 1,200 feet wide; (2) Riverview Anchorage No. 1: 35 feet deep, 4,500 feet long, and 1,500 feet wide; and (3) Fort McHenry Anchorage: 35 feet deep, 3,500 feet long, and 400 feet wide.

The mean range of tide is 2.8 feet at the Cape Henry Channel, 2.3 feet at the York Spit Channel, 1.4 feet at the Rappahannock Shoal Channel, 0.8 foot at the Craighill Entrance, 0.9 foot in the Cutoff Section, 1.1 feet at Fort McHenry, and 1.2 feet at Pooles Island in the upper Chesapeake Bay. Depths refer to mean low water.

Estimated cost for new work is $361,581,000 which includes: $8,330,000 for completed work through the River and Harbor Act of 1945; $38,411,000 for work completed under the River and Harbor Act of 1958 of which $33,991,000 is Corps of Engineers, $60,000 is U.S. Coast Guard and $4,360,000 is non-Federal; and $314,840,000 (October 1989 prices) for work authorized by the River and Harbor Act of 1970, of which $460,000 is U.S. Coast Guard and $314,380,000 is Corps of Engineers and non-Federal.

Local cooperation. Requirements are described in full on page 4-3 of Fiscal Year 1982 Annual Report.

Terminal facilities. The Port of Baltimore has 45 miles of waterfront of which 25 miles are industrially developed. There are 94 covered and open overseas piers for the loading and discharging of 173 ships, providing 84 general cargo, 65 specialized cargo, and 24 public bulk cargo berths. The existing ground storage is equivalent to 53,700 railroad cars of cargo. There are 31 public general merchandise warehouses, with 4.9 million square feet of storage space and 4.7 million cubic feet of cold storage space. Eight ship-building, ship-repair, and ship-dismantling yards are available for handling up to 90 vessels. The two grain elevators in

the port have a capacity of about 8 million bushels. Latest description of terminal facilities is in "Port Series No. 10 (revised 1991)" on Port of Baltimore, MD, (issued by Board of Engineers for Rivers and Harbors).

Operations and results during fiscal year. New Work, Baltimore District: A contract to dredge maintenance material and new work material to widen the Brewerton Channel Eastern Extension to 600 feet and place the material in the Poplar Island Environmental Restoration Project was awarded to Great Lakes Dredge & Dock Company on August 24, 2000. Work started on April 16, 2001 and was completed on September 4, 2001. A total of 2,296,514 cubic yards of new work material were removed and deposited at the Poplar Island Environmental Restoration Project at a cost of $20,784,000.

Maintenance, Baltimore District. Condition surveys of the project channels were made. Work continued on a risk assessment to evaluate the environmental impacts of placement of dredged material from the Upper Chesapeake Bay approach channels to the Port of Baltimore. Maintenance dredging, performed by Great Lakes Dredge and Dock Company, removed 1,293,600 cubic yards of material from Craighill Upper Range, Cutoff Angle, Curtis Creek Channel, and Swan Point Channel and placed it at the Hart-Miller Island Containment Facility. The work was completed on April 12, 2001 at a cost of $7,542,938. Maintenance dredging, by contract, of 853,886 cubic yards of material from the Brewton Channel Eastern Extension, at a cost of $6,153,000 commenced on April 16, 2001 in conjunction with new work dredging and was completed on September 4, 2001. Maintenance dredging, by contract, of an estimated 817,000 cubic yards of material from the Craighill Angle, Craighill Entrance channels, at a cost of $6,151,516 commenced on September 21, 2001 in conjunction with new work dredging and is expected to be completed in March 2002.

Maintenance, Norfolk District. Condition surveys were made of the Rappahannock Shoal Channels. A contract in the amount of $9,121,875 to dredge an estimated 1,350,000 cubic yards of maintenance material from Cape Henry Channel and 1,313,700 cubic yards of maintenance material at York Spit Channel, in conjunction with 1,591,000 million cubic yards of required overdepth to dredge the Cape Henry Channel to 53 feet, was awarded to Manson Construction Company on September 5, 2001. Material from Cape Henry will be placed in the Dam Neck Dredged Material Management Area and dredged material from York Spit channel will be placed in Wolf Trap Dredged Material Management Area. The contract is $5,861,475 with options totaling $3,260,400. Construction started on September 17, 2001 and is scheduled to be completed in September 2002.

2. BALTIMORE HARBOR ANCHORAGES AND CHANNELS, MD

Location. The project area encompasses the 32-square mile area of the Port of Baltimore. The port area of Baltimore includes the navigable part of the Patapsco River below Hanover Street, the Northwest and Middle Branches, and Curtis Bay and its tributary, Curtis Creek.

Existing project. Existing anchorages and branch channels are not of sufficient depth, length and width to accommodate vessels now in operation. The recommended plan will reduce delays and increase efficiency and safety through the following improvements: (1) widen and deepen Federal Anchorages 3 and 4; (2) widen and provide flared corners for state-owned East Dundalk, Seagirt, Connecting, and West Dundalk branch channels; (3) dredge a new branch channel at South Locust Point; and (4) dredge a turning basin at the head of the Fort McHenry Channel. An estimated 3.9 million cubic yards of material will be dredged for these improvements. The current project cost estimate is $26,000,000 including $18,300,000 Federal and $7,700,000 non-Federal.

Local cooperation. The PCA with the State of Maryland was executed December 19, 2001. The sponsor is required to provide lands, easements, rights-of-way, including disposal areas and pay 25 percent of costs allocated to general navigation facilities during construction and pay 50 percent of the costs of incremental maintenance below 45 feet below mean low water. All dredged material from the project is considered contaminated by law, and will be placed in a containment site, the expanded capacity at Hart-Miller Island, to be provided by the non-Federal sponsor. The State will receive credit for proportional costs to modify the site to make it usable for placement of project material.

Terminal facilities. See Section 1 of this text.

Operations and results during fiscal year. New Work: Plans and specifications for project construction were completed in early 2001. A limited re-evaluation report was essentially completed to address design changes and the project's economic justification. Construction is scheduled to start February 2002 and complete in April 2003.

3. BALTIMORE HARBOR, MD, COLLECTION AND REMOVAL OF DRIFT

Location. Project applies to Baltimore Harbor, MD, and its tributaries.

Existing project. Provides for collection and removal of drift from Baltimore Harbor and its tributary waters, and authorizes the Secretary of the Army to allot such amounts as may be necessary for work from appropriations for maintenance and improvement of exisiting river and harbor works or other available appropriations, and that this work shall be carried as a separate and distinct project. It is wholly a work of maintenance. Purpose of work is to afford relief from variable conditions of obstruction.

Local cooperation. None required.

Terminal facilities. See Section 1 of this text.

Operations and results during fiscal year. Maintenance: Operations, by hired labor, consisted of collection and disposal of 9,180 cubic feet of driftwood, ranging from small blocks up to timbers of large dimensions.

4. CHESTER RIVER, MD

Location. Rises in Kent County, DE, and flows 50 miles generally southwesterly and empties into the Chesapeake Bay. Kent Island Narrows is a passage connecting Chester River and Eastern Bay. Wells Cove is an indentation on the easterly side of Kent Island Narrows about 0.4 mile south of the highway bridge crossing the Narrows. (See Coast and Geodetic Survey Charts 12266 and 12270.)

Previous project. For detail see page 262 of the 1960 Annual Report.

Exsiting project. Provides for a channel 6 feet deep at mean low water and 60 feet wide from Crumpton to Jones Landing, section included in project is about 5.5 miles long with the lower end of the section being about 37 miles above mouth of river; for a channel 7 feet deep at mean low water and 75 feet wide from Chester River to Eastern Bay through Kent Island Narrows; and a channel 7 feet deep at mean low water and 75 feet wide extending from 7-foot deep curve in Kent Island Narrows 800 feet into Wells Cove with a basin of same depth and 300 feet square at head of channel. Mean range of tide is 2.4 feet. Coast of new work for completed project was $32,454, exclusive of amounts expended on previous projects. Widening 7-foot deep channel from 75 to 100 feet from Chester River to Eastern Bay through Kent Island Narrows was deauthorized and is excluded from the foregoing estimate.

Local cooperation. Fully met except local interests are to furnish disposal areas for future maintenance.

Terminal facilities. There are two bulkhead wharves on Chester River section. Facilities on the Kent Island Narrows section of the existing project consist of about 10,000 linear feet of timber pile bulkheaded wharf. About 1,350 linear feet of the wharf is owned and operated by the Queen Anne's County; the remainder is privately owned. The privately owned bulkheaded wharf is operated mostly by the seven marinas located on the Narrows with the remainder being owned and operated by the seafood packing houses in the area. In addition to the slips of the marinas, there are marine railways, launching ramps, and travel-lifts. All of these facilities are in good condition and are located adjacent to the proposed improvements. In Wells Cove there is a small wharf, a small marine railway, and a public landing. All facilities are privately owned except the public landing on Wells Cove. Facilities are considered adequate for existing commerce.

Operations and results during fiscal year. Maintenance: A contract in the amount of $737,568 was awarded on July 10, 2001 to dredge 28,142 cubic yards from the project and place it along the shoreline of Eastern Neck National Wildlife Refuge. Stonework to protect the dredged material was placed along the shoreline in August 2001. Dredging was completed in October 2001.

5. HERRING BAY AND ROCKHOLD CREEK, MD

Location. Herring Bay is a wide-mouthed indentation on the west side of Cheasapeake Bay about 20 miles below Annapolis, MD. It is about 3 miles long from north to south and penetrates the shore for a depth of about 1 mile. Rockhold Creek, which is about 2.5 miles long, is an estuary which extends northward from the northerly end of Herring Bay. (See U.S. Coast and Geodetic Survey Chart 1225.)

Existing project. Provides for channel 7 feet deep and 60 feet wide form 7-foot contour in Herring Bay to vicinity of county wharf on Rockhold Creek, with turning basin of same depth, 100 feet wide and 150 feet long at head of channel, and a stone breakwater approximately 900 feet long east of entrance channel. Mean range of tide is about 1.5 feet and extreme tidal range about 4 feet. The Federal cost of new work for completed project was $50,591.

Local cooperation. Fully met except local interests are to furnish disposal areas for future maintenance as needed.

Terminal facilities. Consists of a public wharf on Rockhold Creek about 600 feet below the county

bridge, open to all, together with a few private landing stages. No freight-handling devices are installed on any of the wharves which are considered adequate for existing commerce.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed for maintenance dredging of the project in FY 2002.

6. HONGA RIVER AND TAR BAY, MD

Location. Honga River is a tidal estuary of Chesapeake Bay and penetrates Dorchester County on Eastern Shore of Maryland between Hooper Island and the mainland; Tar Bay lies between Barren Island and the mainland and Hooper Island. Fishing Creek connects Tar Bay and Honga River. Back Creek is a branch of Honga River extending into Hooper Island; the mouth is about 2 miles south of Fishing Creek. (See Coast and Geodetic Survey Chart 1224.)

Existing project. Provides for a channel 60 feet wide and 7 feet deep at mean low water from the 7-foot contour in Chesapeake Bay, through Tar Bay and Fishing Creek to the 7-foot contour in Honga River, 25,300 feet long, and a channel in Back Creek 7 feet deep and 60 feet wide from the 7-foot depth curve in Honga River to a point near the head of Back Creek with a turning basin of the same depth 150 feet long and 200 feet wide at the head of channel, about 5,500 feet long. Mean range of tide is about 1.4 feet. Federal cost of new work for the completed project was $66,119.

Local cooperation. Local interests furnished placement areas for future maintenance dredging.

Terminal facilities. Numerous small private wharves are scattered along Fishing Creek and Back Creek. A public wharf is on Fishing Creek. A public wharf, four oyster houses, and a marine railway are on Back Creek. Facilities are adequate for existing and reasonable prospective commerce.

Operations and results during fiscal year. Maintenance: Maintenance dredging, by contract, of the entrance channel commenced on September 11, 2000 and was completed on October 5, 2000. A total of 138,392 cubic yards of material were dredged and placed along the shoreline of Barren Island at a cost of $799,838. The area was planted with wetland plants in June 2001. Engineering and design activities were performed for future maintenance dredging of the Back Creek portion of the project.

7. LITTLE WICOMICO RIVER, VA

Location. A tidal estuary 6 miles long in Northumberland County, VA, flowing southeasterly to Potomac River, which it enters on the right bank one-half mile upstream of its mouth and about 108 miles downstream from Washington, DC. (See U.S. Coast and Geodetic Survey Chart 12233.)

Existing project. A channel 8 feet deep, 150 feet wide, and 4,800 feet long, extending from deep water in the Potomac River to deep water in the Little Wicomico River; two stone jetties, extending to the 8-foot contour in Potomac River; and bulkhead walls from the inner ends thereof extending sufficiently into Little Wicomico River to stabilize the dredged inner channel. Plane of reference is mean low water. Tidal ranges in Potomac River at the entrance are: Mean 1.2 feet; irregular, 2.5 feet; and extreme, about 7 feet. Mean tidal range within the river is about 1 foot. Federal cost of new work for the completed project was $81,885, exclusive of $5,000 contributed by local interests.

Local cooperation. Fully met except local interests are to furnish disposal areas for future maintenance dredging.

Terminal facilities. Two wharves open to the public and numerous small wharves and stagings for private use, an oyster shucking, and packing plant, and a marine railway and boat-building yard. Facilities are considered adequate for present commerce.

Operations and results during fiscal year. Maintenance: A contract in the amount of $320,314 was awarded on April 9, 2001 to dredge 18,742 cubic yards from the project and place it along the shoreline to reconstruct a dune. Maintenance dredging commenced on April 27, 2001 and was completed on June 2, 2001. A total of 15,931 cubic yards of material were dredged. Approximately 2 acres were planted to help stabilize the reconstructed dune.

8. NANTICOKE RIVER, MD

Location. The Nanticoke River flows in a south-westerly direction to Tangier Sound, Chesapeake Bay, and is about 50 miles long. The town of Nanticoke, MD, is on the east side of the river, about 3 miles from the mouth, just north of Roaring Point. (See Coast and Geodetic Survey Chart 567.)

Existing project. Provides for a small-boat harbor 7 feet dep, 120 feet wide, and 400 feet long in the marsh at Nanticoke, with an entrance channel of the same depth and 60 feet wide, protected by twin stone jetties in the river, the north jetty being about 870 feet long and the south jetty being about 770 feet long. The mean range of tide is about 2.6 feet. The cost of new work for the completed project was $73,243.

Local cooperation. Fully met except that local interests are to furnish placement sites as required for subsequent maintenance and guarantee the United States and its contractors against claims for damages to oyster beds attributable to subsequent maintenance.

Terminal facilities. There are three privately owned wharves open to the general public.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed to identify a suitable placement site for future maintenance dredging of the project.

9. NANTICOKE RIVER, DE AND MD

Location. Headwaters of Nanticoke River consist of numerous branches rising mainly in the northern portion of Sussex County, DE. The river is about 50 miles long and flows southwesterly from its source to Tangier Sound.

Northwest Fork is a branch of Nanticoke River which rises in Kent County, DE, and flows past Federalsburg, MD, generally southerly through Dorchester County, MD, to its junction with the main river opposite Riverton, MD. It is about 30 miles long. (See Coast and Geodetic Survey Chart 77.)

privately owned and open to general public use. They consist of one solid bulkhead wharf of 80-foot frontage and three landings each with 60-foot frontages. Depths of water are from 2 to 8 feet. Landings are log revetments backed by earthfill and are in poor condition.

Operations and results during fiscal year. Local sponsor was unable to identify a suitable placement site for dredge material; therefore, all engineering and design work was suspended pending identification of a site and future funding.

10. NEALE SOUND, MD

Location. Along the Potomac River between Cobb Island and the mainland of Charles County, Maryland, near the confluence with Wicomico River, 70 miles downstream of Washington, D.C. (See U.S. Coast Guard and Geodetic Survey Chart. (See Coast and Geodetic Survey Chart 12286.)

Existing Project. A channel 7 feet deep and 100 feet wide at the lower entrance to Neale Sound, from deep water within the Sound to deep water in the Wicomico River; a channel 6 feet deep and 80 feet wide in the Potomac River to deep water within the sound at the upper entrance. Plane of reference is mean low water.

Existing project. Nanticoke River: Channel 12 feet deep and 100 feet wide from the 12-foot depth curve in Tangier Sound to the highway bridge at Seaford, DE, with a turning basin at the upper end. Disjointed sections included in the project is about 4 miles long, extending over 32 miles of river; lower end of the first section of the project is about 8 miles above the mouth of the river. Mean range of tide is 3.4 feet, and the extreme tidal range is 4.3 feet.

Northwest Fork: Dredging a channel 6 feet deep and 60 feet wide at mean low water from upper Browns wharf to within one-half mile of the southern boundary of town of Federalsburg, with a turning basin at the upper end. Section included in the project is about 4 miles long, and its lower end is 11.75 miles above the mouth of the river. Mean range of tide is 2.6 feet.

Local cooperation. Local interests must furnish disposal areas for future maintenance dredging.

Terminal facilities. Waterfront at Seaford consists largely of unconnected pile-and-timber bulkhead wharves with earthfills. One public wharf is used as a launching ramp. Remaining wharves are privately owned. A rail siding extends along a considerable portion of waterfront and offers facilities for interchange of rail and water traffic. Existing terminals are reasonably adequate for present and prospective commerce.

Terminal facilities on Northwest Fork are all Total project length is 5,000 feet. Tidal range is 1.9 feet. The project was adopted by the River and Harbor Act of August 26, 1937, and constructed in 1939. The upper channel has been maintained five times, the lower channel has not required maintenance. In July 1999, the project was modified by Section 107 of the River and Harbor Act of 1960 to provide for a 1,650 foot stone jetty to protect the upper channel from shoaling.

Local Cooperation. Charles County has completed their cost-sharing requirements, pending project financial closeout, which is anticipated in spring 2001. Charles County has provided 50 percent of the cost of the feasibility study, including in-kind services, that was completed in February 1997, and sufficient cash and credits to satisfy the requirements of Section 107 for plans and specifications and construction.

Operations During Fiscal Year. New Work: Construction of a 1,650-foot stone jetty to protect the upper channel to the Sound was physically completed in October 2000. Final closeout, and acceptance of the project by the sponsor was completed in 2001. The upper channel is scheduled to be maintained in FY 2002.

11. NORTHEAST RIVER, MD

Location. A tidal waterway extending southwestward 5.5 miles from the junction of its branches in the town of North East to the head of Chesapeake Bay, 6 miles north of entrance to the Chesapeake and Delaware Canal. (See Coast and Geodetic Survey Chart 1226.)

Existing project. Provides for a channel 60 feet wide and 7 feet deep at mean low water from that depth in river to foot of Church Street in the town of North East, enlarged at its upper end to form a basin 120 feet wide and 300 feet long. Mean range of tide is 2.25 feet.

Local cooperation. Fully met except that local interests are to furnish disposal areas for future maintenance as required.

Terminal facilities. There are a few lightly constructed landings for small boats scattered along the waterfront in the town of North East. There are two fish-packing plants, two marine railways, several bulkhead wharves, 11 marinas, and a number of small boathouses along the length of the waterway. Facilities are considered adequate for existing commerce.

Operations and results during fiscal year. Maintenance: The maintenance dredging contract was modified to pay for differing site conditions encountered during the FY 2000 dredging operations.

12. OCCOQUAN RIVER, VA

Location. Occoquan Creek is formed by the junction of Bull and Broad Runs, about 5 miles southeast of Manassas, VA, and flows about 13 miles in a southeasterly direction, emptying into the Potomac River about 26 miles below Washington, D.C. (See Coast and Geodetic Survey Chart 560.)

Previous project. The original project was adopted by the River and Harbor Act of March 3, 1873. For further details see page 1792, Annual Report for 1915, and page 363, Annual Report for 1936.

Existing project. Provides for a channel 6 feet deep and 150 feet wide from deep water in the Potomac River to Taylors Point, and thence 100 feet wide to the town of Occoquan 6 miles from the mouth, and the protection of the channel about Taylors Point by riprap stone dikes 2,200 feet long. Mean range of tide is 2.0 feet.

Local cooperation. None required.

Terminal facilities. There are 10 landings or wharves in Occoquan Creek. The principal terminal is a solid fill and open pile structure; all the other wharves or landings are solid bulkhead structures.

Operations and results during fiscal year. Maintenance: Surveys of the channel were performed. The channel was remarked to follow existing deep water to eliminate the need for current maintenance dredging and to minimize future maintenance dredging.

13. OCEAN CITY HARBOR AND INLET AND SINEPUXENT BAY, MD

Location. Ocean City is on a barrier island between Sinepuxent Bay and Atlantic Ocean about 35 miles south of entrance to Delaware Bay. (See U.S. Coast and Geodetic Survey Chart 12211.)

Existing project. This provides for an inlet channel 200 feet wide and 10 feet deep through the inlet to the channel in the Isle of Wight Bay, protected on the south side by a stone jetty with a top elevation of 8.8 feet above mean low water and a top width of 18 feet, and on the north side by a stone jetty with a top elevation of 9 feet above mean low water and a top width of generally 20 feet, thence generally 100 feet wide and 6 feet deep to the project harbor; a channel 6 feet deep and 150 feet wide in Sinepuxent Bay from the inlet to Green Point, and thence 100 feet wide in Chincoteague Bay; and for a channel 6 feet deep and 125 feet wide from the inlet channel to a point opposite North Eighth Street in Ocean City, thence 75 feet wide into the Isle of Wight Bay. The modification authorized by the 1954 River and Harbor Act was deauthorized in December 1989. This work included 16- and 14-foot depth channels with widths from 300 to 100 feet from the Atlantic Ocean to the head of the harbor. Depths in the inlet channel and harbor refer to project datum. Depths in the bay channels refer to mean low water.

The elevation of mean low water in the bays above mean low water in the ocean at Ocean City varies from about 0.8 foot in the vicinity of the inlet to 1.7 feet at their heads. The mean range of ocean tide is 3.4 feet. The extreme range is from 3 feet below mean low water to about 3.5 feet above mean high water, a total of 9.9 feet. In the bays the mean range of tide varies from approximately 2.5 feet at the inlet to 0.3 foot at their heads. Greater fluctuations are caused by prolonged high winds. Federal cost of new work for the completed project was $1,190,530, exclusive of $500,000 contributed by local interests and exclusive of $3,700,000 for rehabilitating the south jetty.

Local cooperation. Fully met except local interests must furnish disposal areas for future maintenance as needed.

Terminal facilities. On bay side of Ocean City: two storage basins, for pleasure and small commercial craft, and numerous privately owned pile-and timber piers and bulkhead wharves. At project harbor: a public landing about 1,000 feet long, several privately constructed

bulkhead wharves open to the public for transaction of business with the owners, and a boat repair yard with a marine railway capable of handling boats up to about 150 tons. All piers and wharves are accessible by highway. Port facilities have been expanded to include all available space in the Fish Harbor.

Operations and results during fiscal year. Maintenance: A contract in the amount of $3,980,350 was awarded on June 7, 2001 to repair the south jetty. Construction is scheduled to commence in April 2002 and be completed in October 2002. Engineering and design activities were performed for future maintenance dredging of the Sinepuxent Bay portion of the project. An island expansion site was identified as a placement site for the dredged material.

14. POTOMAC AND ANACOSTIA RIVERS, DC, COLLECTION AND REMOVAL OF DRIFT

Location. Project applies to the Potomac and Anacostia Rivers, Washington, DC, and their tributaries.

Existing project. Collection and removal of drift from the waters of the Potomac and Anacostia Rivers and their tributaries in the Washington area from the head of tidewater to Mount Vernon, VA. Total length of project, considering both sides of the waterway, is about 50 miles.

Local cooperation. None required.

Terminal facilities. See Section 22 of this text.

Operations and results during fiscal year. Maintenance: Operations by hired labor consisted of collection and disposal of 72,360 cubic feet of driftwood, ranging from small blocks up to timbers of large dimensions.

15. POTOMAC RIVER AT MOUNT VERNON, VA

Location. Mount Vernon lies in Fairfax County, VA, about 14 1/2 miles below Washington, DC on the right bank of the Potomac River, which flows in a southeasterly direction into the Chesapeake Bay, 93 1/2 miles downstream from Mount Vernon. (See U.S. Coast and Geodetic Survey Chart No. 560.)

Existing project. This provides for dredging a channel 200 feet wide and 9 to 10 feet deep, at mean low water, between the main channel of the Potomac River and the Mount Vernon wharf, a distance of about 2,200 feet, with a turning basin of the same depth and a radius of 200 feet at the wharf. Tidal ranges are: mean, 2.2 feet; irregular, 3 feet; and extreme, 9.7 feet.

The cost estimate of the project to the Federal Government made in 1888 was $26,000. There is no approved estimate for annual cost of maintenance.

Local cooperation. None required.

Terminal facilities. There is one privately owned and operated wharf on the Mount Vernon estate at the head of the channel.

Operations and results during fiscal year. Maintenance: A contract in the amount of $1,519,727 was awarded on September 13, 2001 to dredge 39,173 cubic yards from the project. The dredged material will be dredged mechanically, unloaded at Marshall Hall, and trucked to a surface mining site.

16. POTOMAC RIVER BELOW WASHINGTON, DC

Location. Potomac River is formed 21 miles below Cumberland, MD, and flows southeasterly about 285 miles and enters Chesapeake Bay, about 80 miles from Atlantic Ocean. Washington, DC is 108 miles upstream of mouth, and head of tidewater is at mile 117. (See Coast and Geodetic Survey Charts No., 12233, 12286, 12287, 12288, and 12289.)

Existing project. Provides for a channel 24 feet deep and 200 feet wide between the mouth of the river and Giesboro Point at Washington, DC--a distance of 108 miles. Plane of reference is mean low water. Tidal ranges are: mean, 1.3 feet at mouth, 2.9 feet at Washington; irregular, 2 feet at mouth, 4.5 feet at Washington; extreme, about 6 feet at mouth, 10.7 feet at Washington. Federal cost of new work for the completed project was $153,836.

Local cooperation. None required.

Terminal facilities. In general, the improvement is a main river channel, and terminal facilities are only served where the channel runs close to either bank of river.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed for future maintenance dredging of the project.

17. PREVENTION OF OBSTRUCTIONS AND INJURIOUS DEPOSITS, MD

Location. Project applies to tidal waters of the harbor of Baltimore and its adjacent and tributary waters and to all tidal waters of Chesapeake Bay and in Maryland.

Existing project. Patrol and inspection throughout the project location to detect violations of sections 13 and 15 of the River and Harbor Act of March 3, 1899

and to investigate obstructions to navigation pursuant to Federal regulations (33 CFR 209.109).

Local cooperation. None required.

Operations and results during fiscal year. Maintenance: Operations, by Supervisor of Harbor of Baltimore included inspections of approximately 81 Federal navigation channels within the project location to insure channels are not obstructed to general navigation by debris, sunken vessels/wrecks, and fishing appurtenances. There were 52 investigations of obstructions or sunken vessels/wrecks.

18. RHODES POINT TO TYLERTON, MD

Location. Rhodes Point and Tylerton are two settlements about 1.5 miles apart on Smith Island, between Chesapeake Bay and Tangier Sound, about 60 miles north of Virginia Capes, and about 110 miles south of Baltimore. (See U.S. Coast and Geodetic Survey Chart 1224.)

Existing project. Channel 6 feet deep, 50 feet wide from that depth in Tyler Creek to and including an anchorage basin of the same depth 150 feet wide and 400 feet long at Tylerton; channel 6 feet deep and 50 feet wide from that depth in Big Thorofare River to Tylerton; and Channel 6 feet deep and 50 feet wide from Rhodes Point to Tylerton. Mean range of tide is 1.7 feet. On January 22, 1982, the Chief of Engineers under authority of Section 107 of the 1960 River and Harbor Act, as amended, authorized a channel 6 feet deep and 50 feet wide a distance of about one mile from the anchorage basin at Rhodes Point through Sheep Pen Gut to deep water in the Cheasapeake Bay.

Local cooperation. Fully met except local interests must furnish placement sites for future maintenance dredging.

Terminal facilities. There are numerous pile-and-timber wharves along waterfronts at Rhodes Point and Tylerton. Facilities are privately owned, open to the public without charge when not in use by the owners, and are adequate for existing commerce. Sufficient space for construction of additional facilities is available, if required.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed for maintenance dredging of the project in FY 2002.

19. SHALLOW CREEK, BALTIMORE, MD

Location. Shallow Creek is a tidal water tributary of the Chesapeake Bay and is located directly adjacent to Fort Howard Veteran's Hospital in southeast Baltimore County, approximately 10 mile southeast of Baltimore, Maryland. (see NOAA Chart No. 12278).

Existing Project. Provides for a channel 5 feet deep and 50 feet wide from that depth in the Patapsco River through the mouth of Shallow Creek and with a turning basis 100 feet long, 100 feet wide, and 5 feet deep in Shallow Creek. It includes a spur channel, with the width varying between 40 feet and 30 feet, and a depth of 4 feet from the existing Federal channel into the northern reach of the creek. Total project length is approximately 5,940 feet.

Local cooperation. Fully complied with except local interests are required to provide or pay to the Goverment the full cost of providing dredged material disposal areas for future maintenance as needed. For the new spur channel the local sponsor is responsible for sharing the cost of the placement site with the Government.

Terminal facilities. There are a number of small wharves and landings within the creek, all privately owned. The facilities are considered adequate for present commerce.

Operations and results during fiscal year. New Work: In September 2001, several hundred submerged aquatic vegetation plants were placed in the creek as part of the project mitigation plan.

20. ST. JEROME CREEK, MD

Location. St. Jerome Creek is a tidal estuary in St. Marys County, MD, 2.5 miles long flowing in a southeasterly direction and entering the western shore of the Chesapeake Bay, 6 miles north of Point Lookout, at the mouth of the Potomac River. The creek is 86 miles northerly of Norfolk, VA. (See Coast and Geodetic Survey Chart 12233.)

Existing project. Provides for a channel 100 feet wide and 7 feet deep from Cheasapeake Bay to the Vicinity of Airedele, thence 60 feet wide to deep water in the creek, with a turning basin of the same depth 200 feet wide and 300 feet long opposite Airedele. The project is 4,900 feet long. The plane of reference is mean low water. The tidal ranges are: Mean 1.3 feet, and extreme, approximately 7 feet. The cost of the Federal Government for new work, for the completed project was $17,857, exclusive of amounts expended under previous projects.

Local cooperation. Fully complied with, except that local interests are to furnish spoil disposal areas for future maintenance as needed.

Terminal facilities. There are numerous privately-owned wharves, 2 of which are open to the public. It is

considered that the present terminal facilities are adequate for present and prospective commerce.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed for future maintenance dredging of the project.

21. TOLCHESTER CHANNEL S-TURN, MD

Location. The Tolchester Channel is located along the eastern side of the upper Chesapeake Bay, near Tolchester Beach, Kent County, Maryland (see National Ocean Survey Chart 12278).

Existing Project. The Tolchester Channel is a uniform channel 35 feet deep, 600 feet wide with widening at the bends, and 7 miles long that follows the naturally deeper water along the eastern side of the upper Chesapeake Bay. The mean range of tide is 1.2 feet. Depths refer to mean lower low water. The project provides for constructing a new straight channel 35 feet deep, 600 feet wide, and 2 miles long to replace the existing the Tolchester Channel S-Turn, which has several turns within a 3-mile long reach of channel. Estimated cost of new work is $13,919,300.

Local cooperation. Section 101 of the River and Harbor Act of 1958, PL 85-500, 3 Jul 1958 requires locals interests to: (1) furnish without costs to the United States all lands, easements, right-of-way, and dredged material placement areas necessary for construction and subsequent maintenance, when and as required; (2) hold and save the United States free from damages due to construction and maintenance of the project; and (3) provide and maintain all necessary alterations in sewer, water supply, drainage, and other utilities.

Terminal facilities. Terminal facilities are described under the Baltimore Harbor & Channels, MD and VA, Federal navigation project.

Operations and results during fiscal year. The Environmental Assessment and Finding of No Significant Impact for the Tolchester Channel S-Turn was finalized in May 2001. A contract for dredging the Tolchester S-Turn in conjunction with maintenance dredging of the Baltimore Harbor project was advertised on May 17, 2001. A contract in the amount of $28,142,600 to dredge an estimated 2.96 million cubic yards of new work material to straighten the Tolchester Channel S-Turn and 817,000 cubic yards of maintenance material and to place the material in the Poplar Island Environmental Restoration project was awarded to Norfolk Dredging Company on August 16, 2001. New work dredging started in October 2001 and is expected to be completed in March 2002. The project was authorized in Section 329 of WRDA 99, which modified Section 101 of the Rivers & Harbors Act of 1958 to "direct the Secretary to straighten the Tolchester Channel S-turn as part of project maintenance". Engineering study started on evaluation of waves generated from vessels utilizing the new straightened Tolchester channel and their associated shoreline impact.

22. TWITCH COVE AND BIG THOROFARE, MD

Location. A tidal waterway about 4 miles long traversing Smith Island, MD, southeasterly from Chesapeake Bay on the west to Tangier Sound on the east. (See U.S. Coast and Geodetic Survey Chart 1224.)

Existing project. A channel 7 feet deep at mean low water and 60-feet wide from Twitch Cove on Tangier Sound through Big Thorofare, thence through canal at Ewell, MD, thence through Levering Creek and Big Thorofare to vicinity of Swan Point, thence of same depth and 100 feet wide through offshore bar to deep water in Chesapeake Bay, with twin stone jetties at entrance, north jetty is about 2,080 feet long, and south jetty about 1,800 feet long; and anchorage basin 7 feet deep, 100 feet wide, and 700 feet long connecting with west side of existing project channel at Ewell; extension of existing project channel in Levering Creek, 6 feet deep, 60 feet wide, and 1,000 feet long; and a channel 4 feet deep and 25 feet around point between Big Thorofare and Tylers River. Mean range of tide is 1.7 feet, and extreme tidal range is 3 feet. Federal cost of new work for completed project was $193,175.

Local cooperation. Fully complied with, except that local interests are to furnish placement sites for future maintenance as needed.

Terminal facilities. Numerous privately owned pile-and-timber wharves and bulkheads at Ewell are open to the public for business transactions with the owners. A county wharf is also at west end of town. Five crab houses are on Levering Creek, and one oyster house on project waterway west of Town of Ewell.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed for maintenance dredging of the projects in FY 2002.

23. UPPER THOROFARE, MD

Location. Natural waterway lying between Deal Island and mainland of Somerset County, MD, on eastern shore of Cheasapeake Bay. (See U.S. Coast and Geodetic Survey Chart 1224.)

Previous project. For details see page 277 of Annual Report for 1962.

Existing project. Entrance channel from Tangier Sound 9 feet deep and 100 feet wide, thence of irregular width to and along south shore of Thorofare, protected by two stone breakwaters at entrance, north breakwater is about 410 feet long and south breakwater about 310 feet long, with a turning basin at inner end 9 feet deep on south side of channel to within 50 feet of bulkhead along south shore, an anchorage area 6 feet deep and 150 feet wide extending across waterway parallel to highway bridge to within 50 feet of bulkhead on south shore, and an anchorage area 650 feet long, 300 feet wide, and 9 feet deep on north side of channel between breakwater and 6-foot anchorage. Mean range of tide is about 2 feet.

Local cooperation. Fully complied with.

Terminal facilities. A small packing-house wharf on shore of Tangier Sound south of project channel: two small packing houses along approach channel at which seafood is landed; and a public wharf at turning basin with a suitable road connecting it with the road system.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed for future maintenance dredging of the project.

24. WASHINGTON HARBOR, DC

Location. Within the District of Columbia at junction of the Anacostia River with the Potomac River which flows southeasterly 108 miles to the Chesapeake Bay. It is southerly 202 miles by water from Baltimore, MD, and northerly 195 miles from Norfolk, VA. (See U.S. Coast and Geodetic Survey Chart 12289.)

Existing projects. The Washington Harbor project provides for a channel in the Potomac River from Giesboro Point to Key Bridge, a second channel from Giesboro Point to the end of Washington Channel, and a third channel from the mouth of the Anacostia River to the foot of 15th Street, SE, with turning basins opposite the Naval Weapons Plant (800 feet wide 2,400 feet long) and at the head of the Anacostia Channel (400 feet square). Channel dimensions are 24 feet deep and 400 feet wide except upstream from Anacostia Channel Bridge where the width is reduced to 200 feet and from Giesboro Point to a point 3,000 feet downstream of Arlington Memorial Bridge and above Easby Point where channel dimensions are 20 feet deep and 200 feet wide. Channel lengths including turning basins are: Virginia Channel, 5,000 feet; Washington Channel, 10,000 feet; and Anacostia River, 15,000 feet; and operations and maintenance of the inlet gates and lock and the outlet gates of the Tidal Basin constructed under a previous project to flush Washington Channel. Plane of reference is low-water datum which is .35 foot below mean low tide as observed from 1932 to 1942. Tidal ranges are: mean, 2.9 feet; irregular, 4.5 feet; and extreme, 10.7 feet. Federal cost of new work for the completed project was $162,006.

Local cooperation. None required.

Terminal facilities. There are four wharves generally of bulkhead type on Virginia Channel that are privately owned and not open to the public except by special arrangement. On Washington Channel there are four piers under jurisdiction of District of Columbia, two of which are open to the public and one open to the public by special arrangement. In Anacostia River there are four privately owned piers and eight government piers and slips. None of the piers is open to the public except by special arrangement. Terminal facilities are considered adequate for existing commerce.

Operations and results during fiscal year. Maintenance: The tidal basin gates were inspected and maintained by hired labor.

25. WICOMICO RIVER, MD

Location. Wicomico River has its source in northern part of Wicomico County, MD, and flows generally southwardly emptying into Monie Bay, a tributary of Tangier Sound on the east side of Chesapeake Bay about 85 miles southeast of Baltimore. Webster Cove is the site of an improved small-boat harbor on southeast bank of Wicomico River about 3 miles above the mouth. (See U.S. Coast and Geodetic Survey Charts 567 and 1224.)

Existing project. Channel 14 feet deep and 150 feet wide from Chesapeake Bay to Salisbury, about 37 miles long, including about 12 miles from the mouth of river to Chesapeake Bay; 14 feet deep in channels and turning basins in north and south prongs with channel widths of 100 feet, and a channel 6 feet deep and 60 feet wide extending from 6-foot contour in Wicomico River to and including a basin in Webster Cove of the same depth, 100 feet wide and 400 feet long; and extension of basin 200 feet long and 100 feet wide on each side. Plane of reference is mean low water. Mean range of tide is about 3 feet, and extreme tidal range is 4.4 feet . Cost of new work for the completed project was $421,609, exclusive of amounts expended on the previous project.

Local cooperation. Fully met, except that local interests are to furnish disposal areas for future maintenance as needed and hold the United States free from such damages as may occur to public or leased oyster beds.

Terminal facilities. Present waterfront at Salisbury consists of pile-and-timber bulkheads with earthfills. Some wharves have warehouses and factories with mechanical freight-handling facilities and rail sidings. All terminals are privately owned. A shipyard, with two marine railways with capacities of 1,200 and 500 tons, respectively, is on right bank of river below prongs. Areas for development of new terminals on north prong are limited. Areas for considerable expansion of terminal facilities are available on main river. There is a pile-and -timber wharf about 4 miles above the mouth of river at Mount Vernon. A wharf of similar construction is at White Haven. There is a county wharf at head of basin in Webster Cove, a pile-and-timber pier at oyster house on southwest side of basin, a T-shaped pile-and-timber pier at cafe on southwest side of basin and several small timber piers on walkways that local interests constructed around the basin. Fueling facilities are available for construction of additional facilities when required.

Operations and results during fiscal year. Maintenance: A contract in the amount of $944,194 to dredge 76,200 cubic yards was awarded on September 29, 1999. Maintenance dredging resumed on October 20, 2000 and was terminated for default on February 12, 2001. Engineering and design activities were performed for future maintenance dredging of the project.

26. RECONNAISSANCE AND CONDITION SURVEYS

(See Table 4-H at end of chapter.)

27. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Fiscal year cost were $208,114 for Coan River, VA; $103,133 for Rockhold Creek, MD; $9,434 for Section 107 Coordination; $112,307 for Tedious Creek; $15,876 for Webster's Cove, Somerset County, MD; $67,109 for Ocean City Harbor and Inlet, MD; $49,946 for Rhodes Point, MD; and $50,387 for Tall Timbers, MD.

Non-Federal contributed costs for the fiscal year were; $44,286 for Rockhold Creek.

SHORE PROTECTION

28. SHORE PROTECTION WORK UNDER SPECIAL AUTHORIZATION

Shore Protection pursuant to Sec. 103 of Public Law 727, as amended (preauthorization). None.

29. ASSATEAGUE ISLAND, MD

Location. The Town of Ocean City and adjacent areas of Worcester County comprise an area of 625 square miles including Assateague Island, Ocean City Inlet, and Chincoteague, Sinepuxent, Assawoman, and Isle of Wight Bays on the Eastern Shore of Maryland. Adjacent to Ocean City is the Assateague Island National Seashore and State Park.

Existing project. The project involves the short-term and long-term restoration of Assateague Island. The short-term restoration plan includes dredging of approximately 1.4 million cubic yards from Great Gull Bank and placing it on Assateague Island in the area between 1.6 miles and 7.2 miles south of the south jetty. The beach will be widened varying distances and a low storm berm will be constructed to elevation 3.3 meters. The long-term portion of the project consists of the mobile bypassing of 190,000 cubic yards of sand around the inlet. Both the short-term and long-term projects include monitoring components. The project area is composed of 4.7 miles of National Park Service and 0.9 miles of State of Maryland land.

Local cooperation. The sponsor for the project is the National Park Service who administers the Assateague Island National Seashore. The National Park Service will provide lands, easements and rights-of-way for the initial construction work.

Operations and results during fiscal year. New Work: Memorandum of Agreement executed between Corps and the National Park Service. Short-term costs will be 100% Corps funded and Long-term costs will be 50% Corps/ 50% National Park Service. The construction contract for the short-term portion was awarded September 2001.

30. ATLANTIC COAST OF MARYLAND

Location. The project is located on Fenwick Island at Ocean City, MD, which is about 35 miles south of the entrance to Delaware Bay. (See U.S. Coast and Geodetic Survey Charts 1220.)

Existing project. The authorized project provides for a steel sheetpile bulkhead along the oceanward edge of the boardwalk from about 4th Street to 27th Street and a sand dune from 27th Street to about 0.3 mile across the Delaware line. The bulkhead is fronted by a 165-foot wide beach, and the dune is fronted by a 100-foot wide

beach. The project also provides for periodic nourishment over the 50-year project life. The current estimated total project cost is $500,000,000 (including a future inflation allowance through the project completion) which includes $44,881,000 for initial construction and $455,119,000 for periodic nourishment.

Local cooperation. The State of Maryland is the project sponsor and the Local Cooperation Agreement was executed March 30, 1990. The sponsor is required to: provide lands, easements, and rights-of-way; modify or relocate buildings, utilities, roads, bridges and other facilities; pay 35% of the first costs and 47% of periodic nourishment costs; and bear all costs of operation maintenance, replacement and major rehabilitation of storm damage reduction facilities. To date the sponsor has fully met these requirements.

Operations and results during fiscal year. New Work: Beach monitoring continued throughout the fiscal year.

31. COLONIAL BEACH,VA

Location. Colonial Beach, Westmoreland County, VA, is located on the right bank of the Potomac River 40 miles upstream from its mouth at Chesapeake Bay and 69 miles downstream from Washington, DC. (See U.S. Coast and Geodetic Survey Chart No. 12286.)

Existing project. On May 29, 1980, the Chief of Engineers under authority of Section 103 of the River and Harbor Act, as amended, authorized construction of the following work: extending the existing Central Beach area and beach at Castlewood Park; off shore breakwaters; and one terminal groin at Castlewood Park. The Central Beach extension begins downstream from Hawthorne Street and continues southward for 1,570 feet, with a maximum width of 120 feet, and provides 107,200 square feet of area, stabilized with vegetation about 200 feet of embankment behind the beachfill. There are four 200-foot breakwaters to stabilize this beach area. At Castlewood Park there are: a 59,300 square foot beach area; three breakwaters; and one 100-foot terminal groin to reduce shoaling to the entrance channel to Monroe Creek. The breakwaters are two each at 200 feet in length and one at 300 feet. The beach will have periodic nourishment when needed.

Local cooperation. The May 4, 1981 Local Cooperation Agreement with the Town of Colonial Beach, in brief, requires the local sponsor to: provide all lands, easements, and rights-of-way; hold and save U.S. from damages; assure public ownership; assure maintenance and repair of the breakwaters; provide 50 percent of the initial construction cost; provide 50 percent of the cost of periodic beach nourishment.

Operations and results during fiscal year. Maintenance: The periodic beach renourishment was completed in the fall of 2000. Future renourishment will be completed as necessary.

FLOOD CONTROL

32. BROAD TOP REGION, PA

Location. The project is located in South Central Pennsylvania, and includes portions of Bedford, Fulton, and Huntingdon Counties. (See Geological Survey Quadrangle sheets Saltillo, PA, and Saxton, PA.)

Existing project. Section 304 of the water resources development Act of 1992, as amended provides for a pilot project to develop and carry out a watershed reclamation and protection, and wetlands creation and restoration project using innovative reclamation technologies for the purposes of restoring, maintenance and protecting surface and ground water, including municipal water supplies, from adverse impacts related to acid mine draining and other runoff. A Master Plan, prepared at a cost of $400,000 identified many potential projects in the Broad Top Region. The Wood-Broad Top-Wells Water Supply and Environmental Restoration project was developed as the initial pilot project. The project consists of two components--replacement and upgrade of the Water Supply System for the villages of Wood and Robertsdale and the restoration of abandoned mine sites at Rocky Ridge South and Defiance North. The current estimated total project cost is $6,975,000, which includes a future inflation allowance through project completion. Federal funds allocated for the project are $5,000,000.

Local cooperation. The Wood-Broad Top-Wells Joint Municipal Authority is the non-Federal sponsor for the project. The local sponsor is required to provide 25% of the cost of the project, including lands, easements, rights-of-way, and relocations, and bear all costs of operation, maintenance, replacement, repair and rehabilitation of the project after construction.

Operations and results during fiscal year. New Work: Sponsor completed construction of water distribution system main lines with installation of meters and hookups completed in April 2000. Bureau of Abandoned Mine Reclamation construction for Defiance North continues. Potential for additional projects continued to be investigated.

33. CUMBERLAND, MD, AND RIDGELEY, WV

Location. On the North Branch of the Potomac River, 21 miles upstream from its junctoin with the South Branch of the Potomac River and 197 miles upstream from Washington, DC. The Chesapeake and Ohio (C&O) Canal stretches 184.5 miles along the Potomac River from the District of Columbia to its terminus in Cumberland, MD, Allegany County. (See Geological Survey Quadrangles, Frostburg and Flintstone, MD, WV, and PA.)

Existing project. Channel improvements on the North Branch of Potomac River from the Western Maryland Railway bridge in South Cumberland upstream to the mouth of Wills Creek, with levees and fill along the left bank and levees along the right bank from downstream corporate limits of Ridgeley, WV, to a point about 150 feet above Johnson Street Bridge; channel improvements along Wills Creek from its mouth upstream to a point in the Narrows about 500 feet upstream from the highway bridge on U.S. Highway 40; levee and flood wall in West Cumberland, MD, on the left bank of the North Branch of the Potomac River from the mouth of Wills Creek upstream to Kelly Boulevard; levee and flood wall in Ridgeley, WV, on the right bank of the North Branch of the Potomac River from Carpenter Avenue upstream to Patapsco Street near the upstream corporate limits of Ridgeley, WV; interior drainage facilities in Cumberland and West Cumberland, MD, and Ridgeley, WV; removal of the Chesapeake and Ohio Canal dam and construction of a new industrial dam on the North Branch of the Potomac River immediately above mouth of Wills Creek; and alteration and reconstruction of highway and railroad bridges. Federal cost of new work for the completed project is $15,633,970, which includes $49,998 emergency relief funds and is exclusive of $197,513 public works acceleration funds. Estimated cost to local interests is $2,900,000 of which $1,402,001 is contributed funds and $1,497,999 is for lands and damages.

Section 580 of WRDA 99 authorizes the Secretary of the Army to undertake "restoration of the historic Chesapeake and Ohio Canal substantially in accordance with the Chesapeake and Ohio Canal National Historic Park".... The plan envisioned is to re-build and rewater up to 1.1 miles of the historic C&O Canal terminus at Cumberland. The turning basin was filled in by the Corps in the 1950's as part of the Cumberland, MD-Ridgeley, WV Flood Protection Project. The current estimated total project cost is $15,000,000.

Local cooperation. Fully met for the completed project. The City of Cumberland is the non-Federal sponsor for the new work. The local sponsor is required to provide 35% of the cost of the project, including lands, easements, rights-of-way, and relocations. In-kind services are permitted to count towards the sponsors's share to include those incurred prior to a signed project cooperation agreement. The National Park Service (NPS) is responsible for operation and maintenance.

Operations and results during fiscal year. New Work: Rewatering design is 75 percent complete and a value engineering study was completed. Maintenance: Normal operation and maintenance of the project continued.

34. HUDSON BRANCH, HOWARD COUNTY, MD

Location. A portion of the Hudson Branch streambank is located in Ellicott City, Howard County, MD. More specifically, the bank located at the intersection of Frederick Road and Rogers Avenue is threatening to undermine the adjacent Colored School, a 19th century African-American one-room schoolhouse.

Existing project. The project is designed to protect a historic structure from imminent damage and from erosion. The schoolhouse represents an important cultural resource as an early attempt at African-American education after the Civil War. The County is interested in protecting the structure for future study or restoration.

Local cooperation. The PCA was signed in October 2000. The sponsor, Howard County, in conjunction with the Maryland Historic Trust, support this project. The sponsor is required to provide lands, easements and rights-of-way and contribute 35 percent of the project cost.

Operations and results durin fiscal year. New Work: Project construction contract was awarded in January 2001, and construction began in late January 2001. Project construction was completed in August 2001.

35. ISLE OF WIGHT BAY WORCESTER COUNTY, MD

Location. The Isle of Wight is a 223 acre island located 2 miles west of Ocean City at the meeting point of Isle of Wight and Assawoman Bays; the St. Martins River lies to the west of the island. The island is bisected by Route 90, which provides one of two links between Ocean City and the mainland in Maryland. The site of the proposed salt marsh restoration/creation project lies along the southeastern shoreline of the

island. (See U.S. Coast Guard and Geodetic Survey Chart 12211).

Existing project. The southeastern shoreline of the island is completely stabilized with concrete riprap, concrete bulkheads, and steel sheet pile. The land-water interface retains no natural shoreline features. The steel sheet pile is failing, and is considered hazardous to public safety. The shoreline areas behind the structure are eroding rapidly. Immediately landward of the stablized shoreline, several feet of fill (including concrete and asphalt rubble) occupy the historic salt marsh wetland areas that formerly comprised the southern shoreline of the Isle of Wight. The recommended plan focuses on restoring/creating 7 to 10 acres of salt marsh along 2,400 linear feet of the southeastern shoreline of Isle Wight in what is now shallow water.

Local cooperation. The PCA was executed on 9 August 2000. The local sponsor is the Maryland Department of Natural Resources. The sponsor is required to provide 35 percent of the cost of construction including provision of all lands, easements, rights-of-way, necessary relocations, and to pay 100 percent of any operation, maintenance, replacement, and rehabilitation costs.

Operation and results during fiscal year. Construction is scheduled for April/May 2002. The plans and specifications for the original plan is 90 percent complete. Completion of the plans and specs and the subsequent construction have been delayed due to the discovery of submerged aquatic vegetation (SAV) within portions of the project area. The Corps, the sponsor, and the contractor working with U.S. Fish & Wildlife and National Marine Fisherie Services have developed an alternative plan that substantially reduces SAV impacts while maximizing marsh creation. The partners are moving forward with this new alternative which is expected to reach 90 percent design completion by December 30, 2001.

36. JENNINGS RANDOLPH LAKE, MD AND WV

Location. Project is located on the North Branch Potomac River on the state line between Garrett County, MD, and Mineral County, WV. The damsite is located approximately 7.9 miles upstream from the confluence with Savage River at Bloomington, MD. It is also about 5 air miles southwest of the tritowns of Luke and Westernport, MD and Piedmont, WV. (See Geologial Survey quadrangle sheets, Kitzmiller and Westernport, MD.)

Existing project. The improvement consists of a rolled earth and rock fill dam with an impervious core and an 800-foot long dike on the left bank. Top of dam is 296 feet above streamed with a total length of 2,130 feet. When filled to spillway crest, the reservoir will extend about 6.6 miles upstream and inundate 965 acres. Flood control storage of 36,200 acre-feet is provided. Storage available for low flow augmentation for water supply and water quality improvement is 92,000 acre-feet. The reservoir controls a drainage area of 263 square miles. Recreation facilities are provided for picnicking, camping and boating. Final project cost is $176,325,300.

Local cooperation. See page 4-15 of the 1977 Annual Report for requirements. A water supply contract between the Federal Government and the Washington Suburban Sanitary Commission in concert with the Fairfax County Water Authority, VA and the District of Columbia was executed for repayment of all water supply costs. The first of 50 annual payments began in July 1981. Federally approved water quality standards put into effect by Maryland, Virginia, West Virginia, and the District of Columbia are considered satisfactory assurances of intent to control pollution. Satisfactory assurances have been received from Maryland, West Virginia, and Virginia that they will protect downstream channels from encroachment that would adversely affect operation of the project. Local interests operate a white water access area below the dam. The State of Maryland has constructed a recreation area on the Maryland side of the lake.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

37. LACKAWANNA RIVER BASIN, PA

Flood Control Act of 1962 authorized construction of Aylesworth Creek Lake, Fall Brook Lake, and local protection works on Lackawanna River at Scranton, PA, substantially as recommended by the Chief of Engineers (S. Doc. 141, 87th Cong., 2d Sess.). The Basin includes an area of 346 square miles in northeastern Pennsylvania.

37A. AYLESWORTH CREEK LAKE, PA

Location. Project is located in Lackawanna County on Aylesworth Creek about one mile above its confluence with the Lackawanna River, near the community of East Jermyn, PA.

Existing project. Provides for an earthfill dam with a maximum height of 90 feet above streambed and a top

length of 1,200 feet. The spillway located adjacent to the left abutment is an open cut channel 80 feet wide with a concrete sill. The outlet works consist of a 3-foot diameter uncontrolled conduit. Project controls a drainage area of 6.2 square miles and provides flood control storage of 1,700 acre-feet equivalent to 5.1 inches of runoff from the drainage areas. The lake will extend about 4,600 feet and inundate 87acres when filled to spillway crest. Recreation facilities constructed by local interests include a bathing beach, bathhouse, and picnic area. Federal cost of new work was $2,268,200 of which $2,153,559 was for construction and $114,641 for lands and damages. In addition $52,200 Federal and $52,200 non-Federal funds were expended for construction of bathhouse facilities under the recreation facilities for completed projects program.

Local cooperation. None required. The Aylesworth Creek Reservoir Park Authority, representing the Boroughs of Archbald and Jermyn, operate and maintain limited day use facilities including a small beach.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

38. MOOREFIELD, WV

Location. Moorefield, WV, is located at the junction of the South Fork (Moorefield River) of the South Branch of the Potomac River, 57 miles upstream from the mouth of the South Branch of the Potomac River, and 233 miles upstream from Washington, DC. (See Geological Survey Quadrangle sheets, Moorefield, WV).

Existing project. Provides for a flood warning system, 21,600 feet of earth levee, 1,360 linear feet of floodwall, highway bridge replacement of one span of a railroad bridge, environmental mitigation, and appurtenant project features such as ramps, closures, riprap, relocations, and ponding areas for local drainage. The current estimated total project cost is $26,925,000 which includes a future inflation allowance through project completion.

Project cooperation. The Town of Moorefield is the sponsor for the project. The Project Cooperation Agreement was signed May 12, 1994. The local sponsor is required to: provide lands, easements, rights-of-way; modify or relocate buildings, utilities, roads, bridges, and other facilities; pay 5% of the cost allocated to flood control; and bear all costs of operations, maintenance and replacement of flood control; and bear all costs of operation, maintenance and replacement of flood control facilities after construction. (The cash contribution is deemed satisfied in consideration of the transfer of Grandview State Park to the Federal Government.) The Water Resources Development Act of 1999 waived the non-Federal requirement to pay its unpaid balance on the project.

Operations and results during fiscal year. New Work: Project close-out activities continued during the fiscal year.

39. NEABSCO CREEK, VA

Location. Neabsco Creek is located in Woodbridge, Prince William County, Virginia. A tidal estuary approximately three miles long, enters the west side of the Potomac River about 83 miles above its mouth and about 27 miles south of Washington, D.C. (See Coast and Geodetic Survey Chart 560.)

Existing project. Silt and debris build-up has dammed the lower reach of Neabsco Creek between US Route 1 and its confluence with the Potomac River. The new hydraulic flow regime is inefficient and leads to frequent flooding of US Route 1 and local businesses. Any project constructed in the area would have the intent of reopening an efficient stream channel to reduce flood frequency upstream. This area was studied in 1995 under Section 208 of the Flood Control Act of 1954 and was found to lack ecomonic justification. Section 576 of the Water Resources Development Act of 1996 directed the Secretary of the Army to carry out a project for flood control in the Neabsco Creek Watershed, Prince William County, Virginia, at an estimated cost of $1,500,000.

Local cooperation. The sponsor for the project is the Board of County Supervisors of Prince William County which will be required to provide all lands, easements, rights-of-way and relocations and contribute a total of 25 percent of project costs.

Operations and results during fiscal year. Engineering and design continued including award of a contract for environmental and technical work.

40. LACKAWANNA RIVER, OLYPHANT, PA

Location. The project is located along the Lackawanna River in the northeastern portion of the Commonwealth of Pennsylvania in Lackawanna County. (See Geological Survey Quandrangle sheets, Olyphant, PA.)

Existing project. Provides for 3,800 feet of earth levee, 1,100 feet of concrete floodwall, a closure structure, interior drainage facilities, 1,500 feet of gabion slope protection and associated cultural

mitigation and environmental restoration. The current estimated total project cost is $15,400,000 which includes a future inflation allowance through project completion.

Local cooperation. The Borough of Olyphant is the sponsor for the project. The local sponsor is required to: provide lands, easements, and rights-of-way; modify or relocated buildings, utilities, roads, bridges, and other facilities; pay 5% of the costs allocated to flood control; and bear all costs of operation, maintenance, and replacement of flood control facilities after construction.

Operations and results during fiscal year. New Work: The Borough of Olyphant continued real estate acquisitions. Engineering and design was completed. Construction contracting actions were initiated. The overall project is scheduled for completion in November 2003.

41. DICKSON CITY, (OLYPHANT), PA

Location. Dickson City is located on the Lackawanna River across from the Borough of Olyphant. (See Geological Survey Quadrangle sheets, Olyphant, PA.)

Existing project. The Energy and Water Development Appropriations Act of 1998 provided 1 million for the Corps to undertake activities leading to construction of flood control measures at Dickson City with the same levels of protection (100-year) as provided to Olyphant, PA.

Local cooperation. Dickson City is the sponsor for the project. The sponsor is required to: provide lands, easements and rights-of-way; modify or relocate buildings, utilities, roads, bridges and other facilities; pay a minimum of 5% of the cost allocated to flood control; and bear all costs of operation, maintenance, and replacement of flood control facilities after construction.

Operations and results during fiscal year. New Work: Engineering and design work continued to determine if there is federal interest in a flood control project at Dickson City.

42. RAYSTOWN LAKE, RAYSTOWN BRANCH, JUNIATA RIVER, PA

Location. Dam site is on Raystown Branch, about 5.5 miles upstream from its confluence with Juniata River. Project is about 10 miles south of Huntingdon, PA. (See Geological Survey Quadrangle sheets, Huntingdon, Mt. Union, Broad Top and Everett, PA.)

Existing project. The rock and earthfill dam rises 225 feet above streambed with a gated concrete spillway and auxiliary spillway in the right abutment. The reservoir has a storage capacity of 762,000 acre-feet, of which 248,000 acre-feet are for flood control, 476,000 acre-feet for recreation and water quality control, and the balance for sediment reserve. At full flood control pool elevation, the reservoir would inundate 10,800 acres and extend 34 miles upstream. Recreation facilities are provided for boating, fishing, camping, swimming, hunting, hiking, and picnicking. Federal cost for new work was $77,408,700 of which $46,120,931 was for construction and $31,287,769 was for lands and damages including relocations. Construction of a private hydroelectric plant at Raystown Lake was completed May 1988.

Local cooperation. None required.

Operations and results duriing fiscal year. Maintenance: Normal operation and maintenance of the project continued. Contract was completed to design and construct a floating breakwater at the entrance to Seven Points Harbor. Federal funding totaling $1,213,000 were provided to Juniata college for construction of facilities and structures at the Juniata college field station.

43. LACKAWANNA RIVER, SCRANTON, PA

Location. The project is located along the Lackawanna River in the northeastern portion of the Commonwealth of Pennsylvania in Lackawanna County. (See Geological Survey Quadrangle sheets, Scranton, PA.)

Existing project. The Albright Ave. portion of the project provides for 6,800 feet of earth levee, 700 feet of concrete floodwall, 3 closure structures, interior drainage facilities, 2,700 feet of gabion slope protection, an improved flood warning system, removal of a railroad bridge, access ramps, and associated cultural mitigation. The Energy and Water Development Appropriations Act of 1999 provided funding to construct 100-year level flood protection for two additional communities: the Green Ridge Section and the Plot neighborhood. The current estimated total project cost is $55,459,000 which includes $20,934,000 for the Albright Ave. portion, $14,672,000 for the Plot portion and $19,853,000 for the Green Ridge portion of the project.

Local cooperation. The City of Scranton is the sponsor for the project. The local sponsor is required to: provide lands, easements and rights-of-way; modify or relocate buildings, utilities, roads, bridges, and other facilities; pay a minimum of 5% of the cost allocated to flood control; and bear all costs of operation,

maintenance, and replacement of flood control facilities after construction.

Operations and results during fiscal year. New Work: Engineering and design by the Corps and real estate acquisition by the local sponsor continued on the Albright Ave. portion of the project. A decision document was approved on the Plot and Green Ridge portions of the project. The Albright Ave. portion of the project is scheduled for completion in November 2002. The overall project is scheduled to be completed in September 2006.

44. OCEAN PINES, WORCESTER COUNTY, MD

Location. Ocean Pines is a large residential development located in Worcester County along the mainland shoreline of Isle of Wight Bay. The Isle of Wight Bay is one of several bays that together comprise Maryland's "coastal bays."

Existing project. The project includes restoration of 6.3 acres of filled salt marsh to tidal salt marsh, their historic land cover. The restoration action includes the control and removal of more than five acres of reed grass (a common invasive pest species frequently found in disturbed wetland sites along the coast); the excavation and removal of approximately 2 to 3 feet of fill material (20,000 cubic yards) to restore inter-tidal elevation; grading of the surface to approximate historic salt marsh elevation; creation of tidal creeks to promote appropriate intermittent inundation; and re-vegetation of the areas with native salt marsh plants.

Local cooperation. The PCA was executed on January 10, 2001. The project site had previously been privately owned and was acquired by Worcester County for the project as part of the Lands, Easements, Rights-of-Way, Relocations and Disposal responsibilities of the local sponsor.

Operations and results during fiscal year. The construction contract was awarded in June 2001 and notice to proceed was given on July 13, 2001. The project is to be completed in October, more than two months ahead of schedule. A dedication and memorial ceremony is scheduled for April 2002.

45. WILLIAMSPORT, PA - HAGERMAN'S FLUME

Location. Williamsport, the county seat of Lycoming County, PA, is located on the left bank of the West Branch of the Susquehanna River, 40 miles above its mouth. (See U.S. Geological Survey Quadrangle sheets, "Trout Run and Williamsport, PA.")

Existing project. The plan of improvement provides for the construction of a system of levees and concrete floodwalls and appurtenant structures, consisting of the following features: about 26,200 feet of earth levee and 3,060 feet of concrete floodwall along the left bank of the West Branch of the Susquehanna River, extending from high ground near Sheridan Street, generally parallel to and on the right bank of Millers Run to the Susquehanna River, thence extending upstream along the left bank of the river and Lycoming Creek; about 29,900 feet of earth levee and 860 feet of concrete floodwall along the left bank of the West Branch of the Susquehanna River, extending from high ground and Bottle Run generally parallel to and on the right bank of Lycoming Creek to the Susquehanna River, thence extending upstream along the left bank of the river to Carothers Lane, thence to high ground along the Pennsylvania Railroad; about 11,400 feet of earth levee and 880 feet of concrete floodwall along the right bank of the West Branch of the Susquehanna River in South Williamsport, extending from high ground at Central Avenue and Charles Street, along Charles Street to the river, thence upstream along the river to high ground at Maynard Street; a reinforced concrete pressure culvert about 1,390 feet along and a flume 470 feet along to provide for control of Hagerman's Run; 10 pumping stations for the disposal of interior drainage; and appurtenant closure and drainage structures. The improvement provides protection for the City of Williamsport and the Borough of South Williamsport and part of Old Lycoming Township against a flood discharge equal to the maximum flood of record, which occurred in March 1936. The Federal costs of new work for the completed project are $12,964,893, which includes $1,887 emergency relief funds. The estimated local cost of lands and damages and utility relocations, revised in 1955, is $2,158,500. The Energy and Water Deveolopment Appropriations Act of 1998 directed the Corps to use $225,000 to construct necessary repairs to the flume and conduit for flood control at the Hagerman's Run, Williamsport, Pennsylvania flood control project.

Local cooperation. Fully complied with on the completed work.

Operations and results during fiscal year. Engineering and design and local coordination continued on the repairs necessary to the flume and conduit for flood control at Hagerman's Run.

46. WEST VIRGINIA AND PENNSYLVANIA FLOOD CONTROL

Location. The eight projects within the Baltimore District are located in the City of Altoona, Logan Township and Allegheny Township; Carbon Township; Coalmont Borough; Rock Hill Furnace Borough; the

Borough of Everett; Bedford County; Newton Hamilton Borough; and Huntingdon Borough in Pennsylvania.

Existing project. Section 581 of the Water Resources Development Act of 1996, as amended, provides for design and construction of structural and non-structual flood control, streambank protection, stormwater management and channel clearing and modificaton measures in the Lower Allegheny and Lower Monongahela (Pittsburgh District) and West Branch Susquehanna River and Juniata River basins, Pennsylvania at a level of production that is sufficient to prevent any future losses to communities in the basins from flooding such as occurred in January 1996, but no less than a 100-year level of flood protection with respect to measures that incorporate levees or floodwalls. The current estimated total project cost is $16,532,000 which includes a future inflation allowance through project completion.

Local cooperation. Local sponsors identified to date include Everett and Logan Township/Altoona. The sponsors are required to: provide lands, easement, and rights-of-way; modify or relocate buildings, utilities, roads, bridges, and other facilities; provide cash contributions such that their total share including lands and relocations is a minimum of 25 percent; and bear all costs of operation and maintenance.

Operations and results during fiscal year. New Work: Negotiations were continued for the design phase study for Logan Township/Altoona (Mill Run) project, and sponsor coordination was conducted for the Everett project. Coordination continued to identify sponsors for six other projects.

47. SOUTHERN NEW YORK FLOOD CONTROL PROJECTS

Authorized plan provides for construction of reservoirs and related flood control works for protections are located in the upper watershed of the Susquehanna River to and including the Chemung River.

47A. ADDISON, NY

Location. At confluence of Tuscarora Creek and Canisteo River in the City of Addison, NY. (See Geological Survey map for Addison, NY.)

Existing project. Provides for construction of about 3,100 feet of earth levee and 700 feet of concrete flood wall on the right bank of the Canisteo River, extending from high ground on Steuben Street near the Baltimore & Ohio Railroad to the mouth of Tuscarora Creek; removal of existing dam, mill, and raceway from the channel; construction of about 2,200 feet of earth levee on the left bank of Tuscarora Creek, extending from Tuscarora Street to Canisteo River; construction of 4,600 feet of earth levee on the right bank of Tuscarora Creek, extending from high ground at the southwest edge of the village to high ground at the southeast edge of the village; and appurtenant drainage structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47B. ALMOND LAKE, NY

Location. Dam is located two miles upstream from Hornell, NY, on Canacadea Creek, a tributary of the Canisteo River. (See Geological Survey map for Hornell, NY.)

Existing project. The dam is an earthfill structure, 1,260 feet long rising 90 feet above the streambed, with a concrete spillway and a gated outlet conduit in the left abutment. The outlet works consist of three 5-foot by 10-foot service gates and three emergency gates of the same size. The reservoir has a storage capacity of 14,640 acre-feet at spillway crest. The project controls a drainage area of 56 square miles, 36 percent of the watershed of the Canisteo River upstream from Hornell, NY. Recreation facilities include a boat-launching ramp and dock, bathing beach, picnic area, and tent and trailer camping area.

Local cooperation. None required. Local interests have developed recreational facilities at the lake in conjunction with the Federal Government. These facilities are operated and maintained by the Steuben County Board of Supervisors.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47C. ARKPORT DAM, NY

Location. Dam is located five miles upstream from Hornell, NY, on the Canisteo River, a tributary of the Chemung River which flows into the Susquehanna River. (See Geological Survey map for Arkport, NY.)

Existing project. The dam is an earthfill structure, 1,200 feet long, exclusive of spillway, rises 113 feet above the streambed, with a concrete spillway and an ungated outlet in the right abutment. The outlet structure consists of an 8-foot diameter reinforced concrete lined conduit, 660 feet long. A cast iron nozzle placed in the lower end of the conduit, reducing the outlet size to 4 feet 4 inches. The reservoir has a storage capacity of 7,950 acre-feet at spillway crest. The project controls a drainage area of 31 square miles,

20 percent of the watershed of the Canisteo River upstream from Hornell.

Local cooperation. None required.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47D. AVOCA, NY

Location. On the Cohocton River at the Village of Avoca, NY, about 30 miles Upstream from the confluence of the Cohocton and Chemung Rivers. (See Geological Survey map for Avoca, NY.)

Existing project. Provides for improvement and realignment of about 8,300 feet of Cohocton River channel, extending from above the Erie Railroad to below the junction of Main Street and U.S. Highway 15; construction of about 8,500 feet of earth levee on left bank of the Cohocton River, extending from high ground above Alexander Avenue to about 1,300 feet below the junction of Main Street and U.S. Highway 15; and 4,500 feet of earth levee on the right bank of Salmon Creek, extending from high ground above Alexander Avenue to the Erie Railroad; a new highway bridge for U.S. Highway 15 over Cohocton River, raising of the Erie Railroad bridge 4 feet; and appurtenant drainage structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47E. BINGHAMTON, NY

Location. At the confluence of the Chenango and Susquehanna Rivers in the City of Binghamton, NY. (See Geological Survey map for Binghamton, NY.)

Existing project. Provides for construction of earth levees, concrete flood walls, and appurtenant drainage structures, consisting of about 850 feet of channel excavation and about 1,375 feet of earth levee along Phelps Creek, Town of Port Dickinson; new concrete wall on the right bank of the Chenango River, extending downstream from high ground near the city limits to an existing flood wall below DeForest Street, a distance of about 520 feet; about 150 feet of concrete wall just below Cutler Dam; about 180 feet of concrete wall at the pumphouse near McDonald Avenue; raising existing earth levees on the right bank of Chenango River, extending from Cutler Dam downstream for about 1,220 feet; about 2,915 feet of earth levee on the left bank of Chenango River north of the city limits in the Village of Port Dickinson, extending from Church Street to high ground just north of the city line; about 3,900 feet of earth levee on the left bank of Chenango River, extending from DeForest Street to Cutler Dam; new concrete flood walls and riverbank revetment for about 5,570 feet extending on the left bank of Chenango River from Cutler Dam to the junction with the Susquehanna River; about 540 feet of new concrete flood wall and raising about 1,085 feet of concrete flood wall on the right bank of the Susquehanna River, extending from the Delaware, Lackawanna & Western Railroad downstream to Tompkins Street Bridge; about 1,940 feet of earth levee; about 1,940 feet of concrete flood wall and capping about 125 feet of concrete flood wall, on the right bank of the Susquehanna River from Stuyvesent Street to mouth of Chenango River; about 8,380 feet of earth levee, about 2,180 feet of new concrete flood wall on the left bank of the Susquehanna River extending from Pierce Creek to high ground at State Highway 17, a debris dam and flume between Corbett and Hotchkiss Streets and a concrete pressure conduit, 1,060 feet long to carry flow of Park Creek from Vestal Avenue to the Susquehanna River; about 665 feet of levee extending from the Erie Railroad to high ground along the right bank of Chamberlain Creek near the mouth; closure structures at Erie Railroad and at Court Street; a weir, a drop structure, and about 1,800 feet of earth levee, about 2,235 feet of channel excavation, about 645 feet of channel paving and raising, about 470 feet of existing concrete flood wall, and about 200 feet of new concrete flood wall for improvement of Pierce Creek from its mouth to about 1,000 feet about Conklin Avenue; and appurtenant drainage structures. Improvement, supplemented by authorized flood control dams above the area, will provide protection for the City of Binghamton against a flood discharge about 20 percent greater than the maximum flood of record, which occurred in July 1935 on the Chenango River and in March 1936 on the Susquehanna River.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47F. CANISTEO, NY

Location. On Purdy and Bonnets Creeks in the Town of Canisteo, NY, situated along the south side of the Canisteo River, at the confluence of Bonnets Creek and in the Canisteo River. (See Geological Survey map for Canisteo, NY.)

Existing project. Provides for construction of about 8,000 feet of earth levees on the right bank of the Canisteo River, extending from high ground 1,570 feet

west of State Highway Route 21 above the Town to a point at the intersection of Ordway Lane and East Main Street; about 7,400 feet of earth levee on the left bank of Purdy and Bennetts Creeks, extending from the Main Street Bridge to high ground above Greenwood Street 1,000 feet of earth levee on the right bank of Bennetts Creek extending upstream from the Main Street Bridge; a concrete check dam with wing levees from Greenwood Street; a new highway bridge at Greenwood Street; channel excavation in Bennetts and Purdy Creeks; and appurtenant drainage structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47G. CORNING, NY

Location. On the Chemung River in the City of Corning, NY, about 44 miles upstream from the confluence of Chemung River and North Branch of Susquehanna River. (See Geological Survey map for Corning, NY.)

Existing project. Plan of improvement provides for construction of a pumping station, earth levees, and concrete flood walls, consisting of about 4,300 feet of earth levee, enlargement of about 8,610 feet of existing earth levee and about 3,100 feet of concrete flood wall on the right bank of the Chemung River, extending from the Erie Railroad Bridge to high ground at Park Avenue below the City; about 200 feet of concrete flood walls, about 2,500 feet of earth levees and enlargement of about 11,500 feet of existing earth levee on the left bank of the Chemung and Cohocton Rivers, extending from the Erie Railroad Bridge over Cohocton River to the mouth of Post Creek; about 2,500 feet of earth levee and enlargement of about 4,700 feet of existing earth levee on the right bank of Post Creek; about 2,500 feet of earth levee and enlargement of about 4,700 feet of existing earth levee on the right bank of Post Creek from its mouth to Watkins Street; realignment of about 3,000 feet of channel, about 8,800 feet of earth levee, about 3,000 feet of channel excavation, a pressure conduit about 400 feet long, a drop structure and a weir for improvement of Cutler Creek, extending from its mouth to high ground at Deckertown Road and Hornby Road; and appurtenant drainage structures. Flood protection on Monkey Run was authorized by the Flood Control Act of 1950. Plan of improvement provides for construction of 2,010 feet of open flume, 2320 feet of pressure conduit storm sewers, and appurtenant facilities between the existing improved channel above Sixth Street and the Chemung River at a point immediately east of Pine Street East. Modified improvement will provide protection for the City of Corning against a flood discharge in Chemung River approximately equal to the maximum flood of record, which occurred in May 1945, and on tributary streams against floods of greater magnitude than known to date.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47H. EAST SIDNEY LAKE, NY

Location. Dam is located near East Sidney, NY, on the Ouleout Creek, about five miles above the confluence of the creek with the Susquehanna River. (See Geological Survey map for Franklin, NY.)

Existing project. The dam is an earthfill and concrete structure, 2,010 feet long, including spillway, rises 130 feet above the streambed and consists of a concrete gravity-type section with a compacted earth-dike section at the right abutment. The outlet works consist of five rectangular conduits each 3.5 feet b 5.85 feet and 105 feet long. The reservoir has a storage capacity of 33,500 acre-feet at spillway crest. The project controls a drainage area of 102 square miles which is 93 percent of the Ouleout Creek drainage area, and 5 percent of the watershed of the Susquehanna River upstream from Binghamton, NY, exclusive of the separately controlled Chenango River. Recreation facilities include a bathing beach, picnic and camping areas, and boat-launching and docking facilities.

Local cooperation. None required. The Town of Sidney, NY, cooperated in the development of recreation facilities and operations and maintains all the facilities with the exception of the recreational pool, which is the responsibility of the Federal Government.

Operations and results during fiscal year. Maintenance: Normal operations and maintenance of the project continued.

47I. ELMIRA, NY

Location. On the Chemung River in the City of Elimira, NY, about 27 miles stream from the confluence of the Chemung River and North Branch of Susquehanna River (See Geological Survey map for Elmira, NY).

Existing project. Provides for about 17,700 feet of earth levees, and about 4,100 feet of concrete flood wall on the right bank of the Chemung River, extending from South Hoffman Street to a point below the city near the upper end of Big Island; about 12,100 feet of earth levee and about 6,300 feet of concrete wall on the left bank of the Chemung River extending from Durland Avenue to the Delaware, Lackawanna & Western Railroad at the

mouth of Newton Creek; about 10,000 feet of earth levee on right bank of Newton Creek, extending from about the intersection of Delaware, Lackawanna & Western Railroad and East Church Street to high ground near intersection of Sullivan and Warren Streets; about 4,300 feet of earth levee on the right bank of Divan Creek; about 2,000 feet of concrete conduit enclosing Hoffman Brook from West Second Street to the Chemung River; clearing islands and riverbanks of trees and brush for about 3.5 miles in the Chemung River; about 14,300 feet of earth levee on the left bank of Seely Creek, extending from the Erie Railroad to high ground approximately 1,000 feet northwest of the intersection of South Broadway and Pennsylvania Avenue; a pumping plant for disposal of interior drainage; an interceptor sewer about 6,000 feet long varying in size from 48 to 96 inches in diameter; and appurtenant structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47J. HORNELL, NY

Location. On the Canisteo River in the City of Hornell, NY, about 42 miles upstream from the confluence of the Canisteo and Tioga Rivers. (See Geological Survey map for Canisteo, NY.)

Existing project. Provides for channel realignment and earth levees, concrete flood walls, and check dams consisting of: realignment of about 4,600 feet of the Canisteo River channel, and about 5,800 feet of earth levee on its right bank, extending from Seneca Street upstream to the junction of the Pittsburgh, Shawmut & Northern Railroad and the Erie Railroad; about 4,500 feet of earth levee, extending on both sides of Seneca Street from the Canisteo River to Wrightman Avenue and the junction of Cleveland Avenue and Bethesda Drive; about 7,200 feet of earth levee, about 2,500 feet of concrete flood wall, and raising about 1,500 feet of existing concrete flood wall, on the right bank of the Canisteo River, and about 12,000 feet of channel improvement, extending from Seneca Street to the Erie Railroad; about 2,500 feet of earth levee, about 2,100 feet of concrete flood wall on the left bank of the Canisteo River extending from Seneca Street to the Erie Railroad; about 2,500 feet of earth levee, about 2,100 feet of concrete flood wall on the left bank of the Canisteo River extending from a point opposite Walnut Street to the Erie Railroad; a ring-earth levee about 2,800 feet long around the sewage-disposal plant on the left bank of the Canisteo River; about 4,500 feet of realignment and improvement of the Canisteo River Channel with about 4,500 feet of earth levee on its right bank extending from Cedar Street downstream to about 1,400 feet about East Avenue; about 2,400 feet of channel paving, 1,400 feet of earth levee, raising about 1,900 feet of concrete flood wall, and construction of one check dam on Canacadea Creek; about 1,600 feet of channel paving and construction of three check dams on Chauncey Run with about 300 feet of new wall and about 300 feet of capping; a weir, a check dam, 3,030 feet of channel paving, 4,800 feet of flood walls and levees, and related work on existing walls, on Crosby Creek; removal of 6 bridges, erection of 4 bridges, miscellaneous bridge structures, and 3 drop structures; and appurtenant drainage structures and small stream control works. Improvement, supplemented by Arkport and Almond Reservoirs above the area, provides protection for the City of Hornell against a flood discharge approximately double the maximum flood of record, which occurred in July 1935.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47K. LISLE, NY

Location. On the Tioughnioga River in the Village of Lisle, NY, about 12 miles upstream from the confluence of the Tioughnioga and Chenango Rivers. (See Geological Survey map for Lisle, NY.)

Existing project. Provides for channel realignment and construction of earth levees and concrete flood walls, consisting of: relocation of about 3,000 feet of Dudley Creek Channel, extending from 1,200 feet west of the intersection of Cortland and Main Streets to the confluence with Tioughnioga River; realignment of some 5,700 feet of Tioughnioga River Channel east of the Village; about 4,150 feet of earth levee and 970 feet of concrete wall on the right bank of Dudley Creek and Tioughnioga River; realignment of some 5,700 feet of Tioughnioga Street to the railroad crossing on River Street; raising about 1,860 feet of the Delaware, Lackawanna & Western single track railroad over the levee; relocation of about 1,600 feet of Cortland Street; a new bridge over relocated Dudley Creek; and appurtenant drainage structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47L. OXFORD, NY

Location. On the Chenango River in the Village of Oxford, NY, about 40 miles upstream from the confluence of the Chenango and Susquehanna Rivers. (See Geological Survey map for Oxford, NY.)

Existing project. Provides for earth levees and clearing of Chenango River Channel, consisting of about 2,100 feet of earth levees on the left bank of the Chenango River, extending from high ground near Cemetery Drive and running mostly along the railroad to high ground near Main Street; removal of dam and island below Main Street; raising the Delaware, Lackawanna & Western Railroad over the levee; and appurtenant closure and drainage structures. Improvement provides protection for the Village of Oxford on the left bank against a flood discharge substantially larger than the maximum flood of record, which occurred in July 1935.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47M. WHITNEY POINT LAKE, NY

Location. Dam is located near Whitney Point, NY, on the Otselic River about 0.7 mile upstream from its confluence with Tioughnioga River. (See Geological Survey map for Whitney Point and Willet, NY.)

Existing project. The dam is an earthfill structure, 4,900 feet long, exclusive of a spillway, rises 95 feet above the streambed, with a concrete spillway and gated outlet in the left abutment. The outlet works consist of three 5-foot by 10-foot gates and one emergency gate of the same size. The reservoir has a storage capacity of 86,440 acre-feet at spillway crest. The project controls a drainage area of 255 square miles, the entire watershed of Otselic River, or 16 percent of the Chenango River watershed upstream from Binghamton, NY. Recreation facilities, constructed in cooperation with local interests, provide for swimming, picnicking, camping, boating, fishing, and hunting.

Local cooperation. None required. Local interests operate and maintain all of the recreation facilities.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47N. WHITNEY POINT VILLAGE, NY

Location. On the Tioughnioga River at the confluence of the Tioughnioga and Otselic Rivers, tributaries of the Susquehanna River. (See Geological Survey map for Whitney Point, NY.)

Existing project. Provides for channel realignment and earth levees, consisting of realignment of about 1,800 feet of Tioughnioga River Channel, above the confluence with Otselic River; about 7,100 feet of earth levee along the right bank of the Tioughnioga River, extending from high ground on Main Street above the Village to Collins Street just below the Village; and appurtenant drainage structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

48. STILLWATER LAKE, LACKAWANNA RIVER, PA

Location. Dam is on the Lackawanna River, 39 miles from the mouth of the stream and about 4 miles upstream from Forest City, Susquehanna County, PA (See Geological Survey Quadrangle sheet, Honesdale, PA.)

Existing project. Dam is earthfill type, rising 77 feet above the streambed, with a controlled outlet conduit and side channel spillway in the left abutment. Reservoir capacity is 12,000 acre-feet, of which 11,600 acre-feet is flood control storage and the remainder is used to maintain the existing water supply reservoir for Forest City, PA, at this site. Reservoir area is 422 acres, and the pool extends about 2.1 miles upstream. Reservoir controls 52 percent of the watershed above Carbondale, 26 percent above Olyphant, and 17 percent above Scranton. Federal cost of new work, completed in 1965, was $5,725,700 of which $4,500,500 was for construction and $1,225,200 was for lands and damages.

Local cooperation. None required. Section 2, Flood Control Act of June 28, 1938, applies.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

49. SUSQUEHANNA RIVER FLOOD CONTROL PROJECTS, NY AND PA

Plan of improvement authorized by the 1958 Flood Control Act provides for construction of Cowanesque Lake, PA, Tioga-Hammond Lakes, PA, local protection works at Elkland, PA, and Nichols, NY, and channel improvements at Cortland, NY. This project plan supplemented the comprehensive flood control program for Southern New York and Northern Pennsylvania which included the Southern New York flood control

project and Stillwater, Genegantslet, and South Plymouth Reservoirs.

49A. COWANESQUE LAKE, PA

Location. Dam is on the Cowanesque River about 2.2 miles above its confluence with Tioga River at Lawrenceville, PA. (See Geological Survey map for Tioga, PA.)

Existing project. The project provides for an earthfill dam 3,100 feet long and rising 151 feet above the streambed, an uncontrolled spillway in the right abutment, a gated conduit in the Valley floor, and flood control storage is 82,000 acre-feet. Relocation of the Town of Nelson to a new townsite was authorized by Section 121 of the Water Resources Development Act of 1976. The Federal cost of this new work was $106,030,700 of which $61,743,600 was for construction and $44,287,100 was for lands and damages and relocations (which includes $5,755,000 for relocation of the Town of Nelson). Within the discretionary authority of the Chief of Engineers the project was modified in March 1983 in accordance with the Water Supply Act of 1958, as amended, and the Flood Control Act of 1944, as amended. The modification provides for reallocating 25,600 acre-feet of present flood control storage for water supply storage by raising the permanent pool from elevation 1,045 to 1,080 mean sea level. Other features include modifying the existing intake tower and two access ramps, stabilizing the reservoir slope near the relocated Town of Nelson, replacing existing day-use recreation facilities, and expanding both day-and overnight-use recreation facilities to accommodate an expected increase in annual visitation due to the larger pool. Estimated cost (October 1991) of the modification is $55,198,00 of which $1,257,00 is Federal (for expanded recreation facilities) and $53,941,000 is non-Federal (which includes $39,414,000 for reimbursement of the cost of existing flood control storage reallocation to water supply storage, $13,270,000 cash contribution for the water supply modification, and $1,257,000 cash contribution for expanded recreation facilities.)

Local cooperation. The Water Resources Development Act of 1976, which authorized relocation of the Town of Nelson, provides that before the Secretary of the Army acquires any real estate property for the new townsite, appropriate non-Federal interests shall furnish binding contractual commitments that all lots in the new townsite will be either occupied when available, replacements for open space and vacant lots in the existing town, or will be purchased by non-Federal interests at the fair market value. The required contractural agreement for local cooperation was executed with Nelson Township on August 25, 1977. The March 1983 project modification (discussed above) requires non-Federal interests repay 100 percent of the investment cost of project modifications allocated to water supply, to terrestrial wildlife habitat mitigation, and to in-kind replacement recreation, plus the allocated share of the project's original cost (escalated to current price levels). Additionally, they are required to pay annual costs of operation, maintenance, and major replacements allocated to water supply and to provide 50 percent of the cost of expanded recreation facilities, as well as, all operation, maintenance, and replacement costs for the expanded facilities. Water supply and recreation contracts were executed by the Assistant Secretary of the Army (Civil Works) and the Susquehanna River Basin Commission on June 30, 1986.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued. Update of the project master plan was begun and will be completd in FY 02.

49B. TIOGA-HAMMOND LAKES, PA

Location. The dams are located in Tioga County, PA, upstream from the confluence of the Tioga River and Crooked Creek. Tioga Dam is located on the Tioga River and Hammond Dam on Crooked Creek, approximately opposite the Tioga damsite, about 3.3 miles above its mouth and less than one mile from the Village of Brooklyn. (See Geological Survey map for Tioga, PA.)

Existing project. Tioga Dam is 2,600 feet long, rising 140 feet above the streambed, with a controlled outlet conduit. Hammond Dam is 5,900 feet long, and has a maximum height of 121.5 feet above the streambed, with a concrete spillway. Both dams are of earth and rockfill construction. The Tioga-Hammond Lakes project controls a total drainage area of 402 square miles, with Tioga Dam controlling 280 square miles of the Tioga River Basin and Hammond Dam controlling 122 square miles of the Crooked Creek Basin. Recreation facilities are provided for swimming, camping, picnicking, boating, and fishing. Federal cost of completed work was $185,620,000 of which $125,029,000 is for completed construction and $60,591,000 is for lands and damages and relocations. Estimated Federal cost (October 1988) of Mill Creek recreation facilities (inactive) is $7,500,000.

Local cooperation. None required.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued. Update of project master plan was begun and will be completed in FY 02. Construction of

a new ranger station/visitor information center was begun and will be completed in FY 02.

50. WEST BRANCH OF SUSQUEHANNA RIVER, PA

A system of three flood control reservoirs, in the headwaters of the West Branch Susquehanna River, PA, are known as Curwensville, Alvin R. Bush (formerly known as Kettle Creek), and Foster Joseph Sayers (formerly known as Blanchard).

In accordance with the terms of local cooperation, the Commonwealth of Pennsylvania furnished assurances that it will coordinate operation of George B. Stevenson Reservoir (formerly known as First Fork Reservoir) with operation of Curwensville, Alvin R. Bush, and Foster Joseph Sayers Reservoirs to secure optimum flood control benefits from system operation. George B. Stevenson Reservoir on the First Fork Sinnemahoning Creek in Cameron and Potter Counties, PA, was constructed by the Commonwealth of Pennsylvania at a first cost of $12,240,000 and an estimated $30,000 annually for operation and maintenance.

50A. ALVIN R. BUSH DAM, PA

Location. Alvin R. Bush (formerly Kettle Creek Dam) is located on Kettle Creek about 8.4 miles above the mouth and 15 miles upstream from Renovo, PA. (See Geological Survey map for Keating, PA.)

Existing project. Dam is an earthfill structure, about 1,350 feet long, rises 165 feet above the streambed, with an uncontrolled spillway located in rock adjacent to the right abutment, and has a horseshoe-shaped outlet tunnel with 3 service gates. The reservoir has a storage capacity of 75,000 acre-feet at spillway crest. The project controls a drainage area of 226 square miles or about 92 percent of the Kettle Creek watershed. Recreation facilities are provided for camping, fishing, boating, picnicking, hiking, winter sports, hunting, and swimming by the State of Pennsylvania at Kettle Creek State Park.

Local cooperation. None required.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

50B. CURWENSVILLE LAKE, PA

Location. Dam is on the West Branch of Susquehanna River approximately 2.5 miles upstream from Curwensville, Clearfield County, PA. (See Geological Survey map for Curwensville, PA.)

Existing project. Within the discretionary authority of the Chief of Engineers, the project was modified in September 1992, in accordance with the Water Supply Act of 1958, as amended. The modification provides for reallocating an estimated 5,360 acre-feet of storage from conservation to water supply. The reallocation project includes a year-round normal pool and modifications to the existing recreation area. Estimated cost of the modification is $1.7 million which is being funded entirely by the local sponsor, the Susquehanna River Basin Commission. In addition, the sponsor will reimburse the Federal Government about 4.5 million for part of the original project cost.

Local cooperation. The 1992 project modification requires non-Federal interests to pay 100 percent of costs allocated to water supply plus the allocated share of the original project cost (escalated to current price levels). Additionally, they must pay annual costs of operation, maintenance, and major replacement allocated to water supply. A water supply contract was executed on September 30, 1994.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

50C. FOSTER JOSEPH SAYERS DAM, PA

Location. Dam is located on Bald Eagle Creek in Centre County, PA, about one mile upstream from Blanchard and about 14 miles above the confluence of Bald Eagle Creek with the West Branch Susquehanna River at Lock Haven, PA. (See Geological Survey map for Howard, PA.)

Existing project. Dam is an earthfill structure, about 6,835 feet long, rises 100 feet above the streambed, and has an open-cut concrete chute and uncontrolled concrete weir 600 feet wide located in rock in a saddle adjacent to the left abutment. The outlet works, located in the left abutment, consist of a 15-foot diameter circular outlet conduit with two hydraulically-operated wheel gates 7 feet wide and 15 feet high. The reservoir has a storage capacity of 99,000 acre-feet at spillway crest. The project controls a drainage area of 339 square miles or 88 percent of the drainage area above Beech Creek and 43 percent of the Bald Eagle Creek drainage area. Recreation facilities are provided for boating, camping, fishing, picnicking, hunting, swimming, hiking, and winter sports by the State of Pennsylvania at Bald Eagle State Park.

Local cooperation. None required.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

51. WYOMING VALLEY, PA (LEVEE RAISING)

Location. The Wyoming Valley flood control projects are located in Northeastern Pennsylvania on the Susquehanna River in Luzerne County and are the four contiguous existing Federal flood control projects at Plymouth, Kingston-Edwardsville, Swoyersville-Forty Fort, and Wilkes-Barre/Hanover Township, which together function as a flood control system within the Wyoming Valley.

Existing project. The proposed modification provides for raising existing levees and floodwalls between 3 and 5 feet, structural, mechanical and electrical modifications to pump stations, modifying closure structures, relocating utilities and providing some new floodwalls and levees to maintain the integrity of the existing flood control system. The proposed project also includes a plan to reduce project-related adverse impacts. The current estimated total project is $175,000,000 which includes a future inflation allowance through project completion.

Local cooperation. The Luzerne County Flood Protection Authority is the sponsor for the project. The local sponsor is required to: provide lands, easements and rights-of-way; modify or relocate buildings, utilities, roads, bridges, and other facilities; pay a minimum of 5% of costs allocated to flood control and pay 50% of costs allocated to recreation; and bear all costs of operations, maintenance and replacement of flood control and recreation facilities after construction.

Operations and results during fiscal year. Work continued on the Mechanical and Electrical Upgrades to the Stormwater Pump Stations, the Kingston/Edwardsville levee raising and the Wilkes-Barre/Hanover Township Phase 1 contracts. Contracts were awarded for the Plymouth Levee Raising and Wilkes-Barre Stability Berm in the amount of $3,683,063; and for the Raising of Sunbury Flood Protection in the amount of $494,350. Engineering and design also continued.

52. YORK, INDIAN ROCK DAM, PA

Location. On Codorus Creek 10 miles above its confluence with the Susquehanna River. Codorus Creek has tributary branches in York County in the south and central parts of Pennsylvania. (See Geological Survey Quadrangle sheets for York and Hanover, PA.)

Existing project. Indian Rock Dam is an earth and rockfill dam about 1,000 feet long at the top, rising 83 feet above the streambed, with a reservoir providing for control storage of 28,000 acre-feet. The dam is on the main branch of Codorus Creek about 3 miles above York. Outlet works are in the right abutment, and the uncontrolled spillway is on the right bank. The reservoir will control the entire drainage area of the main branch of Codorus Creek and 41 percent of the drainage area above York. Improvements in Codorus Creek in the vicinity of and through the City of York provide for 22,969 feet of channel extending from 300 feet above Richland Avenue to a point downstream from the Pennsylvania Railroad crossing known as Black Bridge. Improvements, which will increase channel capacity to 24,000 cubic feet per second, include widening and deepening the channel, bank protection, removal of York Roller Mill Dam, and a low water channel about 3,900 feet long in the vicinity of York Roller Mill Dam. Cost of new work for the completed project was $5,061,167, of which $4,566,446 (regular funds) and $11,588 (emergency relief funds) were for construction and $483,133 (regular funds) was for lands and damages.

Local cooperation. Section 2, Flood Control Act of June 28,1938, applies.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

53. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Projects in New York, Pennsylvania, Maryland, District of Columbia, and Virginia were inspected during the period by hired labor. See table 4-I.

54. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS

Operations and results during fiscal year. The operation of George B. Stevenson Dam, PA, was coordinated with the operation of Alvin R. Bush, Curwensville, and Foster Joseph Sayers Dams in the West Branch Susquehanna River Basin in order to secure optimum flood control benefits from the system operation. Costs during the period were $2,144,137.

Supplemental instructions for the operation of Savage River Dam, MD, were provided, during periods of high water, to insure maximum protection for downstream localities. Costs during the period were $126,423.

55. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Cost for the period was $334,007 for the Disaster Preparedness Program; $89,509 for Mobilization, Continuity of Government and Emergency Water Preparedness Programs; $6,017 for Emergency Operations; $14,394 for Rehabilitation; $48,501 for the Nationwide Civil Works Activities; and cost for the period for Advance Measures was $2,774 for Assateague Island Breach Contingency. Federal year costs were $10,327 for Section 205 Coordination; $2,961 for Anacostia Flood Warning System; $254,026 for Elkton, MD; $11,550 for Gwynns Falls, Baltimore, MD; $48,720 for Lycoming County Flood Warning System, PA; $8,565 for Paxton Creek Harrisburg, PA; $3,601 for Juniata River, Borough of Alexandria, PA; $5,991 for McClure Run (POCO Farm Area), PA; $16,775 for South River, City of Waynesboro, VA; $10,503 for Heshbon to Hepburnville, Lycoming Count; $8,412 for Tannery Spring Run Watsontown Borough, PA; $42,600 for Montoursville Lycoming County, PA; $10,633 for Loyalsock Creek Lycoming Airport Lycoming; $9,411 for Mill Creek, PA; and $165,000 for Soloman Creek Wilkes-Barre, PA.

Non-Federal contributed costs were: $841 for Paxton Creek Harrisburg, PA; $9,044 for Lycoming County Flood Warning System; and $169,043 for Elkton 205 Feasibility.

Flood control activities pursuant to Section 14, Public Law 526, 79th Congress, as amended (pre-authorization).

Fiscal year costs were $7,989 for Section 14 Coordination; $37,216 for Deep Run, Race Road, MD; $99,205 for Loyalsock Creek, Warrensville Road, PA; $85,768 for Susquehanna River, Hepburn Street, PA; $7,943 for Toms Creek Water Supply Dide, Carrol, VA; $27,267 for Tioga County Public Facilities, PA; $11,730 for Mahonoy Creek Market Street, PA; $35,420 for Newton Creek Newton Avenue, NY; $13,481 for Potomac River Thomas Road, MD; $51,244 for Pine Creek Township Road 566, PA; $23,422 for Chesapeake Bay Punch Island Road, MD; $20,960 for Chesapeake Bay Murray Road, MD; $17,196 for Patuxent River Patuxent Beach Road, MD; $13,599 for North River, VA; and $12,816 for Satterlee Creek Athens Township Bradford.

Non-Federal contributed costs were: $14,243 for Hooper Island Causeway, MD.

MULTIPLE-PURPOSE PROJECTS INCLUDING POWER - None

ENVIRONMENTAL

56. ANACOSTIA RIVER AND TRIBUTARIES, MD AND DC

Location. The project area is the 170-square mile watershed of the Anacostia River. This watershed encompasses approximately 145 square miles in Montgomery and Prince George's Counties, Maryland, and 25 square miles in the District of Columbia. The entire area is within the Washington, D.C. metropolitan area.

Existing project. The authorized plan provides for the construction of 80 acres of tidal and non-tidal freshwater wetlands, the restoration of 5 miles of piedmont streams, and the planting of 33 acres of bottomland hardwood forest within the highly urbanized Anacostia River watershed. The construction is located at 13 sites within the project area. The 13 actions include 2 wetland restorations, development of 5 stormwater management wetlands areas, and restoration of 6 stream reaches. The current estimated total cost for the Anacostia environmental restoration project is $16 million.

Local cooperation. The non-Federal sponsors for the project are Montgomery County, Prince George's County, the District of Columbia, the Maryland-National Capital Park and Planning Commission, and the National Park Service. The last two sponsors are the currrent landowners of the project sites. The non-Federal sponsors are required to pay 25 percent of the cost allocated to fish and wildlife restoration and to bear all costs of operation, maintenance, repair, rehabilitation and replacement of the facilities after construction.

Operations and results during fiscal year. Project construction continued for work in Montgomery County. Construction is scheduled to continue through 2002, with project monitoring planned through September 2005.

57. CHESAPEAKE BAY OYSTER RECOVERY, MD

Location. The project is located in the Maryland portion of the Chesapeake Bay.

Existing project. The authorized project contributes to multi-agency and private efforts to restore oyster populations in the Maryland portion of the Chesapeake Bay. Project elements include: construction and rehabilitation of oyster habitat; construction of seed bar facilities for production of oyster seed or "spat"; purchase of disease-free spat from the state-owned hatcheries, planting of disease-free spat in locations

which best foster oyster production and health; and monitoring of project performance to increase oyster populations. Phase I of the project has an estimated total cost of $3,334,000. Phase II of the project, which will extend into the waters of Virginia, has an estimated project cost of $23,333,000.

Local cooperation. The State of Maryland is the sponsor for the Maryland action of the project. The local sponsor is required to pay 25% of the cost allocated to fish and wildlife restoration and to bear all costs of operation, maintenance, repair, rehabilitation and replacement of fish and wildlife facilities after construction.

Operations and results during fiscal year. New Work: The Phase I project construction was completed in September 2000, with monitoring activities continuing through September 2004. Planning for the long-term Phase II project was initiated in January 2001 and will continue through 2002. Short-term construction activities for the Phase II project will be conducted in the spring and summer of 2002.

58. CHESAPEAKE BAY ENVIRONMENTAL RESTORATION/ PROTECTION PROGRAM, MD

Location. The project is located in the Chesapeake Bay area within portions of the states of Maryland, Virginia and Pennsylvania.

Existing Project. Section 510 of WRDA 1996 authorizes the Corps of Engineers to provide design and construction assistance to non-Federal interests for publicly owned water-related environmental infrastructure and resource protection and development of projects affecting the Chesapeake Bay estuary. These projects include sediment and erosion control, protection of eroding shorelines, protection of essential public works, wastewater treatment and related facilities, water supply and related facilities, and beneficial uses of dredged material, and other related projects that may enhance the living resources of the estuary. At least one project shall be established in each of the states of Maryland, Virginia and Pennsylvania. The Maryland projects include Tylerton Shoreline Protection Project and upgrade of Smith Island Wastewater Treatment Plants, the Virginia project is an oyster restoration project being handled by Norfolk District and the Pennsylvania project will be upgrade of the Scranton Wastewater Treatment Plant to include nitrogen removal.

Local cooperation. The sponsors for the project include the Maryland Department of Natural Resources, Maryland Department of the Environment, Somerset County, Maryland, and the Virginia Marine Resources Commission.

Operations and results during fiscal year. Design work completed on the Tylerton project, the Smith Island Wastewater Treatment Plants and Lower Rappahannock Oyster Restoration Project. Construction work on the Tylerton project and Lower Rappahannock project began.

59. POPLAR ISLAND, MD

Location. The group of islands known as Poplar Island is located in the upper middle Chesapeake Bay approximately 34 nautical miles southeast of the Port of Baltimore and 1 mile northwest of Tilghman Island, Talbot County, MD.

Existing project. The authorized project provides for the use of approximately 33 million cubic yards of dredged material from the southern approach channels of the Baltimore Harbor and Channels navigation project to restore 1,140 acres of remote habitat. The restoration project will employ dikes to contain the dredged materials necessary for the wetlands vegetation and to protect the facility from the severe wave activity common in this region of the Chesapeake Bay. The placement site will restore Poplar Island to its approximate 1847 configuration and will consist of 570 acres of upland habitat at an elevation up to +20 feet MLLW and 570 acres of wetland habitat that would be further divided into approximately 444 acres of low marsh and 111 acres of high marsh. The current estimated total project cost is $340 million (including a future inflation allowance through the project completion).

Local cooperation. The State of Maryland is the project sponsor and the Local Cooperation Agreement was executed April 4, 1997. The sponsor is required to provide lands, easements, and rights-of-way; pay 25% of the cost of the project; and bear all costs of operation, maintenance, replacement and major rehabilitation of the ecosystem restoration project.

Operations and results during fiscal year. New Work: Phase II construction continued through the year with completion expected in December 2001. The first inflow of dredged material (3.2 million cubic yards) started in April 2001 and was completed in August 2001.

60. SOUTH CENTRAL PENNSYLVANIA ENVIRONMENTAL IMPROVEMENT PROGRAM

Location. The south central Pennsylvania area includes fifteen counties defined by the authorizing legislation. Funds for an additional six counties were provided in the FY 1998 and FY 1999 Energy and Water Appropriation Act. The program area within the Baltimore District consists of the Chesapeake Bay watershed portion of the program area including Bedford, Blair, Clearfield, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Snyder, and a portion of Cambria Counties.

Existing project. Section 313 of the Water Resources Development Act of 1992, as amended, established a pilot program for providing environmental assistance to non-Federal interests in south central Pennsylvania. Such assistance may be in the form of design and construction assistance for water-related environmental infrastructure and resource protection and development projects, including projects for waste water treatment and related facilities, water supply, storage treatment, distribution facilities, and surface water resource protection and development. The Federal share may be provided in the form of grants or reimbursements to the sponsor. Section 313 as amended authorizes Federal appropriations of $180 million to carry out the program, including $90 million within the Chesapeake Bay watershed area. From FY 94 through FY02, Congress has added $65,016,000 to the Corps budget for 47 projects in the Baltimore District. This includes two Master Plans; 15 Projects for water supply and distribution; 22 for wastewater collection and treatment; 6 combined improvements for water, wastewater and stormwater; and two for stormwater and flood control.

Local cooperation. The non-Federal sponsors are required to provide 25% of project costs including lands, easements, rights-of-way, and relocations and bear all costs of operation, maintenance, replacement, repair and rehabilitation of the project after construction.

Operations and results during fiscal year. Of the 45 projects in the Baltimore District, 5 construction projects and 2 studies were completed prior to FY 01, and 25 design agreements and 18 construction agreements were completed prior to FY 01. With carryover funds for 38 active projects, we completed construction of 2 projects, continued or initiated sponsor construction of 9 projects, finished Corps design of Hollidaysburg, continued sponsor design of 24 projects, continued a Corps water supply study for McConnellsburg and continued sponsor negotiations for 10 projects. In support of these actions, 1 design and 15 construction agreements were executed in FY 01.

REGULATORY PROGRAM

61. REGULATORY PROGRAM

During fiscal year 2001, there were 508 pending applications; received 4,537 new applications for permits to proceed with activities in navigable and other waters of the United States including wetlands within Maryland, Washington DC, the Susquehanna River Basin in Pennsylvania, and military bases in Northern Virginia. Of the 4,363 final actions; five were withdrawn and six were denied. The enforcement program began the year with 226 active cases; initiated 79 new violation cases, resolved 169 cases. In addition, 917 jurisdictional verifications were requested and performed; 20 public hearings were held. Total costs during the fiscal year were $4,754,979.

WATER SUPPLY

62. WASHINGTON AQUEDUCT

Location. The diversion dam and raw water supply intakes at Great Falls, the two collecting conduits, part of Dalecarlia receiving reservoir, the booster pumping of Dalecarlia receiving reservoir, the booster pumping station and the Little Falls raw water pumping station are located in Maryland. All other structures of the water supply system including parts of the raw water collecting system, two purification plants, pumping stations, storage reservoirs, and transmission mains are in the District of Columbia. Federally owned water mains are maintained in Virginia and Maryland.

Existing project. Control of the water supply system is vested in the Chief of Engineers (see Acts of March 3, 1859, and March 2, 1867, November 22, 1973 and Sec. 1800 of Revised Statutes). The project includes: administration; operation and maintenance of the collection, purification, pumping, and transmission facilities; protection of the water supply system; engineering; and construction of major water system additions and improvements.

Authority to supply water to Arlington County, the City of Falls Church, and other jurisdictions in Virginia is contained in Public Law 119, 69th Congress, approved April 14, 1926; and Public Law 118, 80th Congress, June 26, 1947.

Local cooperation. Requirements are described in full on page 4-19 of the Fiscal Year 1981 Annual Report.

Operations and results during fiscal year. Purified water was furnished to the District of Columbia; Arlington County, and Falls Church, VA; and to Federal Establishments in the District of Columbia, Arlington

County, VA, and Montgomery County, MD. Total consumption for fiscal year 2001 was 64.186 billion gallons. The average amount furnished Arlington County and Falls Church, VA was 41.8 million gallons per day. The Corps of Engineers was reimbursed $23,718,076. of which $8,732,208. was from Virginia.

Fiscal year miscellaneous costs were $9,965 for Coordination Account Funds and $2618 for Initial Appraisals.

GENERAL INVESTIGATIONS

63. SURVEYS

Federal costs for the fiscal year were $1,902,144 including $406,355 for flood damage prevention studies, $939,323 for special studies, $381,213 for special investigations, $22,765 for interagency water resource development, 3,378 for Natl estuary studies, and $149,111 for coordination with other agencies and non-Federal interests.

Non-Federal contributed costs for the fiscal year were $899,976 of which $45,735 was for navigation studies, $578,936 for flood damage prevention studies, and $275,305 for special studies and non-Federal interest.

64. AQUATIC ECOSYSTEM RESTORATION

Fiscal year costs were $9,884 for Section 206 Coordination; $109 for Preliminary Plans; $301,185 for Chesapeake Bay Environmental Restoration; $84,292 for Deep Run/Tiber Hudson, MD; $129,185 for Dents Run, MD; $13,581 for Lackawanna, PA; $270,352 for Nanticoke Creek Luzerne, PA; $9,982 for Easton, MD; $9,994 for Federalsburg, MD; $1,436 for Back River Baltimore County, MD; $188,741 for Blackwater, MD; $219,922 for Lower Anacostia Park, DC; $289,964 for Ft Chaplin/Ft Dupont, DC; $1,990 for Eastonbrook Resrvoir, NY; $1,986 for Loyalsock Creek-Dushore; PA; $41,108 for North Beach, MD; $179,080 for Northwest Branch Anacostia; $13,250 for Upper North Branch Potomac River; MD; $9,986 for St. Martin's River Ocean City, MD; $80,061 for Western Branch Patuxent; MD; $97,623 for Parsons Creek; MD; $9,945 for Kettle Creek, PA; $9,192 for Eddy Creek, PA; $9,683 for Fail Brook, PA; $9,732 for Powderly Creek, PA; $9,673 for Scotts Creek, PA; $9,991 for Heritage Island, DC; $3,423 for Dog Island Shoals, MD; $9,943 for Lower Kingsman Island; $39,098 for Seele Creek, MD; $10,000 for Cobb Island, MD; and $39,491 for Upper Susquehanna-Lackawanna Watershed, PA.

Fiscal year costs were $40,267 for Aquactic Plant Control. Fiscal year costs for Section 1135 were $422,399 for Hart-Miller Island, MD; $24,803 for Whitney Point Reservoir, NY; $56,766 for Kitzmiller, MD; $109,191 for Heritage Island, DC; and $12,193 for Jennings Randolph Lake, MD & WV Nitroge.

65. COLLECTION AND STUDY OF BASIC DATA

Costs for flood plain management activities and general planning guidance during the period was $149,694. Providing assistance and guidance to local interests on methods and procedures for preventing and reducing flood damages was in progress at end of fiscal year.

66. PRECONSTRUCTION ENGINEERING AND DESIGN

Washington, DC & Vicinity--The authorized project would provide for raising the grade of a portion of P Street, filling an area near the Lincoln Memorial (along 23rd Street), regrading the area adjacent to 17th Street and constructing a removable closure structure across 17th Street. These measures were authorized to restore the design level of protection of the existing project and to reduce the need for emergency closure in the event of a flood. Total costs during the fiscal year were $26,000. Estimated preconstruction planning cost is $2,992,000.

FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM (FUSRAP)

67. W.R. GRACE, CURTIS BAY FACILITY, MD

Location. The W.R. Grace Curtis Bay Facility is located at 5500 Chemical Road in Baltimore, Maryland on an industrialized peninsula in south Baltimore, and consists of 260 acres owned by Grace. The property is bordered on the north by Curtis Bay, on the west by Curtis Creek, on the east by the Patapsco River, and on the south by the Baltimore City Municipal Landfill. The facility currently consists of a manufacturing plant (Building 23) and a waste disposal area.

Existing project. Currently, W.R. Grace manufactures and produces speciality chemicals at its Curtis Bay facility. Contamination at the site consists of radioactively-contaminated slabs and other surfaces impacted by the thorium extraction process in Building 23 and the Radioactive Waste Disposal Area to the east

of the plant property. The W.R. Grace Site has been separated into 3 distinct work components: Containerized Waste Rubble, Building 23, and the Radioactive Waste Disposal Area. The overall project cost is estimated at $50 million.

Local Cooperation. Not applicable.

Operation and results during fiscal year. New Work: Remedial investigations for the Radioactive Waste Disposal Area and Building 23 continued throughout the fiscal year. Total cost for the fiscal year was $1,618,585.

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY97	FY98	FY99	FY00	FY01	Total to Sep. 30, 2001
1.	**Baltimore Harbor and Channels, MD and VA**	New Work						
		Approp.	0	(80,000)	(110,000)	1,714,000	4,900,000	151,476,712 [1]
		Cost	110,505	(192,418)	3,810	432,753	5,460,858	150,708,998 [1]
		Maint.						
		Approp.	10,888,000	16,288,000	17,155,000	22,016,323	17,325,481	247,210,473 [2]
		Cost	11,268,468	15,267,157	17,162,474	22,071,927	17,332,787	246,422,800 [2]
		Contributed						
		Approp.	108,000	527,674	47,500	0	0	67,717,114
		Cost	124,837	497,983	18,496	0	0	66,820,847
2.	**Baltimore Harbor, Anchorage & Channels, MD**	New Work						
		Approp.	--	--	--	--	314,000	314,000
		Cost	--	--	--	--	182,741	182,741
3.	**Baltimore Harbor, MD, Colloection & Removal of Drift**	Maint.						
		Approp.	320,000	348,000	373,000	419,100	498,022	8,559,821
		Cost	319,082	344,122	373,555	423,940	498,209	8,569,897
4.	**Chester River**	Maint.						
		Approp.	-	-	-	0	829,468	829,468 [3]
		Cost	-	-	-	0	829,465	829,465 [3]
5.	**Herring Bay and Rockhold Creek, MD**	Maint.						
		Approp.	-	-	-	0	23,443	23,443
		Cost.	-	-	-	0	23,392	23,392
6.	**Honga River & Tar Bay, MD**	New Work						
		Approp.	--	--	--	0	0	66,119
		Cost	--	--	--	0	0	66,119
		Maint.						
		Approp.	66,000	354,000	790,933	850,497	25,882	7,779,447
		Cost	141,289	352,828	789,570	853,101	25,222	7,812,229
7.	**Little Wicomico River, MD**	New Work						
		Approp.	--	--	--	0	0	81,885 [6]
		Cost	--	--	--	0	0	81,886 [6]
		Maint.						
		Approp.	--	--	39,999	50,000	465,275	2,885,251
		Cost	--	--	39,211	36,438	479,608	2,882,531
8.	**Nanticoke River, MD**	New Work						
		Approp.	--	--	--	--	--	0
		Cost	--	--	--	--	--	0
		Maint.						
		Approp.	--	--	0	0	15,082	15,082 [7]
		Cost	--	--	0	0	14,917	14,917 [7]
9.	**Nanticoke River, Northwest Fork, MD**	New Work						
		Approp.	--	--	--	0	0	73,243 [8]
		Cost	--	--	--	0	0	73,243 [8]

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY97	FY98	FY99	FY00	FY01	Total to Sep. 30, 2001
		Maint.						
		Approp.	--	--	47,000	14,003	52,444	1,230,288
		Cost	--	--	46,961	14,042	51,788	1,248,477
10.	**Neale Sound, MD**	New Work						
		Approp.	--	--	--	1,087,009	(19,000)	(1,068,009) [22]
		Cost	--	--	--	1,046,825	47,696	(1,094,521)
		Maint.						
		Approp.	--	--	--	212,941	29,783	29,783 [23]
		Cost	--	--	0	0	29,781	29,781
11.	**Northeast River, MD**	New Work						
		Approp.	--	--	--	0	0	28,489 [9]
		Cost	--	--	--	0	0	28,489 [9]
		Maint.						
		Approp.	50,000	25,000	502,000	173,800	20,000	1,846,144
		Cost	57,977	23,645	506,749	174,079	20,087	1,816,146
12.	**Occoquan River, VA**	Maint.						
		Approp.	--	--	0	0	19,850	19,850 [10]
		Cost	--	--	0	0	19,850	19,850 [10]
13.	**Ocean City Harbor and Inlet and Sinepuxent Bay, MD**	New Work						
		Approp.	--	--	--	0	0	362,193 [11]
		Cost	--	--	--	0	0	362,193 [11]
		Maint.						
		Approp.	634,100	49,000	338,000	267,000	702,131	13,223,931
		Cost	634,012	46,713	339,515	248,170	721,814	13,223,757
14.	**Potomac and Anacostia Rivers, DC Collection & Removal of Drift**	Maint.						
		Approp.	759,000	831,000	764,000	709,700	981,703	16,738,778
		Cost	766,753	828,458	762,184	715,626	982,650	16,738,477
15.	**Potomac River at Mt. Vernon, MD**	New Work						
		Approp.	--	--	--	0	0	17,000 [12]
		Cost	--	--	--	0	0	17,000 [12]
		Maint.						
		Approp.	--	--	17,452	47,900	572,216	981,033
		Cost	--	--	9,842	55,508	572,211	978,172
16.	**Potomac River Below Washington, DC**	New Work						
		Approp.	--	--	--	0	0	254,036
		Cost	--	--	--	0	0	244,858
		Maint.						
		Approp.	62,000	176,000	193,000	1,918,417	105,595	4,736,306
		Cost	59,450	145,553	233,584	1,919,978	105,315	5,245,174
17.	**Prevention of Obstructions & Injurious Deposits, Baltimore Harbor, MD**	Maint.						
		Approp.	577,000	551,000	559,000	605,600	678,904	11,563,549
		Cost	578,054	544,192	562,412	609,935	678,916	11,563,652

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY97	FY98	FY99	FY00	FY01	Total to Sep. 30, 2001
18.	**Rhodes Point to Tylerton, MD**	Maint.						
		Approp.	--	--	0	0	62,259	62,259 [13]
		Cost	--	--	0	0	61,805	61,805 [13]
19.	**Shallow Creek, MD**	Maint.						
		Approp.	--	--	0	0	1,000	1,000
		Cost	--	--	0	0	2,006	2,006
		Maint.						
		Approp.	--	31,000	140,000	0	0	1,968,433
		Cost	--	24,845	60,838	85,290	3,665	1,970,989
20.	**St. Jerome Creek, MD**	Maint.						
		Approp.	--	--	0	0	41,263	41,263 [14]
		Cost	--	--	0	0	41,262	41,262 [14]
21.	**Tolchester Channel, MD**	Maint.						
		Approp.	--	--	100,000	120,300	1,537,405	1,757,705
		Cost	--	--	67,869	152,383	1,536,961	1,757,213
22.	**Twitch Cove & Big Thorofare, MD**	New Work						
		Approp.	--	--	--	0	0	424,800
		Cost	--	--	--	0	0	424,800
		Maint.						
		Approp.	1,242,000	844,100	671 000	549,296	63,686	6,963,093
		Cost	1,261,707	849,728	670,772	553,039	63,687	6,923,175
23.	**Upper Thorofare, Deal Island, MD**	Maint.						
		Approp.	--	--	0	0	31,681 [15]	31,681
		Cost	--	--	0	0	31,679 [15]	31,679
24.	**Washington Harbor, DC**	New Work						
		Approp.	--	--	--	0	0	3,191,077
		Cost	--	--	--	0	0	3,191,077
		Maint.						
		Approp.	24,800	21,000	13,000	29,900	36,454 [17,18]	5,272,037
		Cost	22,616	19,518	16,557	29,806	36,657 [17,18]	5,271,937
25.	**Wicomico River, MD**	New Work						
		Approp.	--	--	--	0	0	471,609
		Cost	--	--	--	0	0	471,609
		Maint.						
		Approp.	2,015,410	78,000	272,000	220,228	893,419	13,231,162
		Cost	2,023,344	76,464	272,802	219,794	896,227	13,234,338
29.	**Assateague Island**	New Work						
		Approp.	--	--	--	200,000	484,560	684,560
		Cost	--	--	--	77,561	367,011	444,572
		Contributed						
		Approp.	--	--	--	0	0	0
		Cost	--	--	--	7,337	0	7,337

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY97	FY98	FY99	FY00	FY01	Total to Sep. 30, 2001
30.	**Atlantic Coast of Maryland**	New Work						
		Approp.	0	4,301,000	393,000	172,000	155,000	32,331,000
		Cost	136,115	3,760,164	891,050	143,953	76,860	32,153,160
		Contributed						
		Approp.	68,910	5,018,670	393,000	237,249	94,420	22,415,721
		Cost	58,752	4,234,108	891,050	169,279	189,412	22,039,673
31.	**Colonial Beach, MD**	New Work						
		Approp.	--	--	0	0	6,600	6,600 [19,20]
		Cost	--	--	0	0	6,587	6,587 [19,20]
32.	**Broad Top Region, PA**	New Work						
		Approp.	0	0	0	0	0	100,000
		Cost	514,718	2,747,659	1,107,840	78,098	17,157	4,535,436
33.	**Cumberland, MD and Ridgeley, WV**	New Work						
		Approp.	--	--	0	0	0	15,634,070
		Cost	--	--	94,963	181,884	13,811	15,924,728
		Maint.						
		Approp.	97,000	352,000	87,000	112,200	112,345	2,130,058
		Cost	92,776	57,148	92,950	112,594	112,402	1,837,383
34.	**Hudson Branch Howard County, MD**	New Work						
		Approp.	--	--	0	0	265,000	265,000
		Cost	--	--	0	0	271,152	271,152
		Contributed						
		Approp.	--	--	--	--	158,500	158,500
		Cost	--	--	--	--	144,135	144,135
35.	**Isle of Wight Bay, MD**	New Work						
		Approp.	--	--	0	0	123,900	123,900
		Cost	--	--	0	0	164,612	164,612
36.	**Jennings Randolph Lake, MD and WV**	New Work						
		Approp.	--	150,000	146,100	23,035	0	176,644,435
		Cost	--	11,648	187,512	119,471	0	176,652,364
		Maint.						
		Approp.	2,122,650	2,301,000	1,574,000	1,549,150	2,334,295	29,413,017
		Cost	2,165,781	2,286,156	1,572,976	1,574,734	2,334,161	29,411,342
		Contributed						
		Approp.	6,350	--	--	0	0	6,350
		Cost	6,350	--	--	0	0	6,350
37A.	**Aylesworth Creek Lake, PA**	New Work						
		Approp.	--	--	--	0	0	2,320,410
		Cost	--	--	--	0	0	2,320,410
		Maint.						
		Approp.	201,000	199,000	226,000	234,100	202,736	3,459,359
		Cost	204,245	199,220	225,578	231,582	205,551	3,459,168
38.	**Moorefield, WV**	New Work						
		Approp.	8,633,000	1,580,000	(800,000)	86,000	0	19,074,100
		Cost	6,953,624	2,245,941	483,826	391,998	80,985	19,041,155

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY97	FY98	FY99	FY00	FY01	Total to Sep. 30, 2001
		Contributed						
		Approp.	13,256	473	0	0	0	1,205,602
		Cost	212,189	14,013	5,855	0	0	1,199,461
39.	**Neabsco Creek, VA**	New Work						
		Approp.	--	--	--	0	0	0
		Cost	--	--	--	207,271	39,409	246,680 [21]
40.	**Lackawanna River, Olyphant, PA**	New Work						
		Approp.	577,000	400,000	6,800,000	0	0	9,047,000
		Cost	246,758	403,825	369,335	125,487	368,350	2,740,211
41.	**Dickson City, (Olyphant), PA**	New Work						
		Approp.	0	1,000,000	0	0	0	1,000,000
		Cost	0	45,377	309,152	371,455	188,815	914,799
42.	**Raystown Lake, Raystown Branch, Juniata River, PA**	New Work						
		Approp.	--	--	--	0	0	77,418,770
		Cost	--	--	--	0	0	77,418,770
		Maint.						
		Approp.	5,556,000	4,750,800	4,563,000	3,844,000	4,656,922	71,187,337
		Cost	4,807,190	5,674,106	4,653,854	3,948,300	4,663,903	71,186,505
		Contributed						
		Approp.	7,500	3,050	5,000	4,264	7,020	26,834
43.	**Lackawanna River, Scranton, PA**	New Work						
		Approp.	339,000	5,425,000	38,651,000	0	0	45,792,000
		Cost	217,032	1,131,921	704,343	1,263,132	454,158	5,129,007
		Contributed						
		Approp.	28,800	12,200	--	0	0	41,000
		Cost	0	0	--	0	40,728	40,728
44.	**Ocean Pines, Worcester County, MD**	New Work						
		Approp.	--	--	0	0	480,600	480,600
		Cost	--	--	0	0	495,817	495,817
		Contributed						
		Approp.	--	--	--	0	156,961	156,961
		Cost	--	--	--	0	48,140	48,140
45.	**Williamsport Hagerman Flume**	New Work						
		Approp.	--	--	--	0	374,000	374,000
		Cost	--	--	--	20,028	24,490	44,518
		Contributed						
		Approp.	--	--	--	21,000	0	21,000
		Cost	--	--	--	6,242	2,374	8,616
46.	**WV and PA Flooding Program**	New Work						
		Approp.	--	--	250,000	727,000	838,000	1,815,000
		Cost	--	--	25,942	47,648	50,264	123,854
		Contributed						
		Approp.	--	--	--	0	20,950	20,950
		Cost	--	--	--	0	10,334	10,334

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY97	FY98	FY99	FY00	FY01	Total to Sep. 30, 2001
47A.	**Addison, NY**	New Work						
		Approp.	--	--	--	0	0	827,050
		Cost	--	--	--	0	0	827,050
		Maint.						
		Approp.	13,000	5,010	11,500	21,200	14,260	366,025
		Cost	12,345	5,740	7,998	24,014	14,949	366,027
47B.	**Almond Lake, NY**	New Work						
		Approp.	--	--	--	0	0	5,760,211
		Cost	--	--	--	0	0	5,760,211
		Maint.						
		Approp.	493,000	427,000	422,000	432,620	450,624	8,741,925
		Cost	505,537	425,001	424,163	427,918	455,343	8,713,792
47C.	**Arkport Dam, NY**	New Work						
		Approp.	--	--	--	0	0	1,910,000 [24]
		Cost	--	--	--	0	0	1,910,000 [24]
		Maint.						
		Approp.	227,100	213,000	199,000	232,900	240,360	4,350,072
		Cost	261,158	214,078	198,655	228,366	245,376	4,350,164
47D.	**Avoca, NY**	New Work						
		Approp.	--	--	--	0	0	436,374 [25]
		Cost	--	--	--	0	0	0 [25]
		Maint.						
		Approp.	20,000	6,100	9,500	16,800	17,960	609,521
		Cost	15,819	10,491	9,132	17,187	17,987	609,419
47E.	**Binghamton, NY**	New Work						
		Approp.	--	--	--	0	0	3,460,000 [26]
		Cost	--	--	--	0	0	3,460,000 [26]
		Maint.						
		Approp.	41,000	101,600	41,000	54,500	96,313	1,097,794
		Cost	41,491	97,670	45,089	54,913	96,351	1,097,794
47F.	**Canisteo, NY**	New Work						
		Approp.	--	--	--	0	0	1,183,111 [27]
		Cost	--	--	--	0	0	1,183,111 [27]
		Maint.						
		Approp.	50,000	10,200	40,000	46,900	35,654	1,206,789
		Cost	42,756	18,142	39,079	47,790	35,753	1,206,800
47G.	**Corning, NY**	New Work						
		Approp.	--	--	--	0	0	3,322,000 [28]
		Cost	--	--	--	0	0	3,322,000 [28]
		Maint.						
		Approp.	51,600	47,280	41,000	31,500	44,730	1,339.508
		Cost	48,065	52,762	40,218	32,319	44,740	1,340,499

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY97	FY98	FY99	FY00	FY01	Total to Sep. 30, 2001
47H.	**East Sidney Lake, NY**	New Work						
		Approp.	--	--	--	0	0	6,049,504
		Cost	--	--	--	0	0	6,049,504
		Maint.						
		Approp.	460,000	479,000	436,000	580,700	494,183	10,878,654
		Cost	467,499	464,032	452,920	580,171	494,912	10,948,683
47I.	**Elmira, NY**	New Work						
		Approp.	--	--	--	0	0	6,883,305
		Cost	--	--	--	0	0	6,883,305
		Maint.						
		Approp.	18,500	1,760	18,000	20,400	14,127	477,336
		Cost	12,810	7,446	18,004	20,343	14,184	477,336
47J.	**Hornell, NY**	New Work						
		Approp.	--	--	--	0	0	4,558,698 [29]
		Cost	--	--	--	0	0	4,558,698 [29]
		Maint.						
		Approp.	160,000	147,030	167,100	194,400	312,579	10,473,685
		Cost	162,189	148,312	157,880	203,720	312,827	10,473,881
47K.	**Lisle, NY**	New Work						
		Approp.	--	--	--	0	0	661,199 [30]
		Cost	--	--	--	0	0	661,199 [30]
		Maint.						
		Approp.	37,300	22,550	28,000	37,100	35,719	1,113,891
		Cost	31,500	28,115	27,389	38,007	35,764	1,113,792
47L.	**Oxford, NY**	New Work						
		Approp.	--	--	--	0	0	131,000 [31]
		Cost	--	--	--	0	0	131,000 [31]
		Maint.						
		Approp.	27,500	(2,230)	19,000	15,000	16,051	409,153
		Cost	18,740	6,592	19,027	14,985	16,066	409,155
47M.	**Whitney Point Lake, NY**	New Work						
		Approp.	--	--	--	0	0	5,421,540
		Cost	--	--	--	0	0	5,421,540
		Maint.						
		Approp.	587,900	596,800	515,000	703,800	707,227	15,809,023
		Cost	603,349	547,990	566,990	693,742	717,392	15,972,017
47N.	**Whitney Point Village, NY**	New Work						
		Approp.	--	--	--	0	0	424,196
		Cost	--	--	--	0	0	424,196
		Maint.						
		Approp.	36,000	14,700	4,900	35,800	18,040	626,921
		Cost	26,448	24,040	5,226	35,914	18,116	627,123
48.	**Stillwater Lake, Lackawanna River, PA**	New Work						
		Approp.	--	--	--	0	0	5,725,700
		Cost	--	--	--	0	0	5,725,700
		Maint.						
		Approp.	336,900	328,000	343,000	408,300	368,149	6,758,439
		Cost	336,812	334,136	343,025	407,946	369,313	6,758,253

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY97	FY98	FY99	FY00	FY01	Total to Sep. 30, 2001
49A.	**Cowanesque Lake, PA**	New Work						
		Approp.	--	--	--	0	0	107,470,700
		Cost	--	--	--	0	0	107,470,751
		Maint.						
		Approp.	1,615,800	1,459,000	2,317,000	1,701,600	2,118,469	27,683,250
		Cost	685,483	1,416,058	2,359,014	1,698,550	2,131,176	26,696,105
		Contributed						
		Approp.	--	--	124,068	141,591	0	13,760,935
		Cost	--	--	124,067	126,366	15,226	13,780,934
49B.	**Tioga-Hammond Lakes, PA**	New Work						
		Approp.	--	--	--	0	0	186,244,800
		Cost	--	--	--	0	0	186,244,800
		Maint.						
		Approp.	2,280,000	2,615,200	2,089,000	2,007,703	3,110,180	38,420,026
		Cost	2,419,061	2,355,484	2,356,276	2,029,549	3,120,402	38,438,194
50A.	**Alvin R. Bush Dam, PA**	New Work						
		Approp.	--	--	--	0	0	7,103,001
		Cost	--	--	--	0	0	7,103,001
		Maint.						
		Approp.	579,000	493,000	639,000	707,000	639,410	13,472,486
		Cost	598,440	492,083	640,001	703,924	642,677	13,481,538
50B.	**Curwensville Lake, PA**	New Work						
		Approp.	--	--	--	0	0	20,406,060
		Cost	--	--	--	0	0	20,406,060
		Maint.						
		Approp.	669,000	636,000	624,000	752,600	654,525	15,944,301
		Cost	685,483	625,265	629,459	754,830	658,672	15,943,221
		Contributed						
		Approp.	990,410	35,000	21,143	37,500	0	1,333,653
		Cost	1,169,309	53,285	13,474	20,518	16,507	1,408,493
50C.	**Foster Joseph Sayers Dam, PA**	New Work						
		Approp.	--	--	--	0	0	30,887,063 [32]
		Cost	--	--	--	0	0	30,887,063 [32]
		Maint.						
		Approp.	1,152,200	701,000	771,000	685,000	691,812	16,545,120
		Cost	1,150,160	721,185	776,771	685,383	691,612	6,104,079
51.	**Wyoming Valley, PA (Levee Raising)**	New Work						
		Approp.	10,307,000	8,596,000	10,919,000	8,875,000	13,980,000	54,032,048
		Cost	4,790,496	11,543,597	9,641,663	10,503,210	13,412,414	53,815,335
		Contributed						
		Approp.	500,000	1,000,000	5,950,000	0	5,000,000	12,450,000
		Cost	182,435	852,321	2,845,621	1,623,010	5,756,344	11,259,731
52.	**York, Indian Rock Dam, PA**	New Work						
		Approp.	--	--	--	0	0	5,601,167 [33]
		Cost	--	--	--	0	0	5,601,167 [33]
		Maint.						
		Approp.	2,129,000	505,410	446,000	552,000	640,041	18,003,831 [34]
		Cost	2,151,907	504,286	429,924	569,543	641,146	18,008,442 [34]

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY97	FY98	FY99	FY00	FY01	Total to Sep. 30, 2001
56.	**Anacostia River & Tributaries, MD & DC**	New Work						
		Approp.	--	2,401,000	(868,000)	3,757,000	2,811,000	8,101,000
		Cost	--	750,516	445,639	4,112,045	1,340,481	6,648,681
57.	**Chesapeake Bay Oyster Recovery, MD**	New Work						
		Approp.	495,000	509,000	705,000	365,000	389,000	2,895,000
		Cost	500,809	450,813	811,901	317,947	70,096	2,512,174
58.	**Chesapeake Bay Environmental**	New Work						
		Approp.	--	--	--	114,000	749,000	863,000
		Contributed						
		Approp.	--	--	--	400,000	266,666	666,666
		Cost	--	--	--	11,461	277,256	288,717
59.	**Poplar Island, MD**	New Work						
		Approp.	757,000	13,542,000	20,518,000	14,606,000	36,482,000	85,905,000
		Cost	743,614	8,512,844	25,017,546	14,824,205	36,090,147	85,188,356
		Contributed						
		Approp.	50,000	2,975,000	9,300,000	6,175,000	13,500,000	32,000,000
		Cost	0	1,386,474	10,471,436	5,518,176	13,979,114	31,355,200
60.	**South Central Environmental Restoration Infrastructure and Resource Protection Development Pilot, PA**	New Work						
		Approp.	1,850,000	15,350,000	23,566,775	0	4,880,000	55,896,775
		Cost	3,357,800	1,550,027	8,639,568	9,555,699	10,408,290	35,960,009
		Contribution						
		Approp.	4,291,000	(240,825)	(15,552)	0		5,672,923
		Cost	4,172,647	(29,884)	(8,076)	0		5,772,925

1. Includes $8,467,003 for previous projects.
2. Includes $399,802 for previous projects.
3. Includes $638,844 for previous projects.
4. Includes $1,105,148 for previous projects.
5. Excludes $2,200 contributed funds and includes $27,668 emergency relief funds.
6. Excludes $5,000 contributed funds.
7. Includes $604,441 for previous projects.
8. Includes $5,000 for previous project.
9. Includes $20,641 for previous projects.
10. Includes $203,198 for previous projects.
11. Includes $283,008 public works funds and $67,185 emergency relief funds; excludes $500,000 contributed funds.
12. Unconstructed portion of the project was deauthorized November 2, 1979.
13. Includes $2,368,946 for previous projects.
14. Includes $756,360 for previous projects.
15. Includes $913,753 for previous projects.
16. Includes $3,029,001 for previous project.
17. Excludes $1,831,609 for previous project.
18. Excludes $4,000 for emergency dredging under provisions of Section 3, 1945 River and Harbor Act.
19. Includes $649,957 for previous projects.
20. Excludes $414,977 contributed funds.
21. Includes $114,712 for previous project.
22. Includes $12,000 for previous project and excludes $1,000 contributed funds.
23. Excludes $903,450 contributed funds.
24. Includes $62,577 emergency relief funds.
25. Includes $109,944 emergency relief funds.
26. Excludes $163,096 contributed funds.
27. Includes $207,520 rehabilitation funds.
28. Excludes $34,729 contributed funds.
29. Includes $250,899 emergency relief funds and excludes $15,000 contributed funds.
30. Includes $71,557 emergency relief funds.
31. Includes $73,465 emergency relief funds.
32. Excludes $263,900 contributed funds in accordance with the Tri-party Agreement for construction of a sanitary system for public use.
33. Includes $11,588 emergency relief funds.
34. Includes $15,000 for deferred maintenance.

TABLE 4-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
1.		**BALTIMORE HARBOR AND CHANNELS, MD and VA**	
	Aug 8, 1917	Branch channel 35 feet deep to head to Curtis Bay, and one 35 feet deep and 400 feet wide Fort McHenry to Port Covington entrance channel, thence 150 feet wide to Ferry Bar, and thence 27 feet deep and 150 feet wide to Hanover Street Bridge, widen approaches and bends, and enlarge anchorage basin near entrance. Inclusion of Patapsco River and tributaries into one project for Baltimore Harbor.	H. Doc. 799, 64th Cong., 1st Sess.
	Jan 21, 1927	Change in location of anchorage near upper end of Fort McHenry Channel.	
	Jul 3, 1930	Increased anchorage facilities Rivers and Harbors.	Committee Doc. 11, 70th Cong., 1st Sess.
	Jul. 3, 1930	For 37-foot depth in that portion of channel to Baltimore lying between 37-foot depth curve near Baltimore Light to Sparrows Point entrance channel; widen angle between Fort McHenry and Ferry Bar section; and for width of 400 feet in Curtis Bay section.	H. Doc. 86, 85th Cong.,1st Sess.
	Oct. 17, 1940	For 22-, 18-, and 15-foot channels in Curtis Creek from 22-foot depth below Pennington Avenue Bridge to upper end of marginal wharf of U.S. Ordinance Depot	Adopted as a national defense project. printed report.)
	Mar 2, 1945	Uniform main channel 309 feet deep from the ocean through York Spit section and Craighill entrance to Fort McHenry, additional anchorage area, 2,400 feet long, 1,200 feet wide, and 30 feet deep; a connecting channel 400 feet wide and 27 feet deep from Cutoff Brewerton Angle in main channel to Inland Waterway from Delaware River to Chesapeake Bay; a channel in Curtis Creek 200 feet wide and 35 feet deep from head of existing 35-foot project channel in Curtis Bay to a point in the creek about 750 feet below Pennington Avenue Bridge.	H. Doc. 741, 79th Cong., 2nd Sess.
	Mar. 2, 1945	A channel 22 feet deep and 200 feet wide from 22-foot depth curve south of Baltimore & Ohio R.R. bridge about 2,800 feet to vicinity of Arundel Cove, thence 100 feet wide in Arundel Cove for about 2,100 feet; with an anchorage basin about 700 feet square adjacent to channel southwesterly of Coast	In accordance with plans on file in the Office, Chief of Engineers Guard wharf.
	Jul 3, 1958	Main channel 42 feet deep and 1,000 feet wide in Cape Henry section at entrance to Chesapeake Bay and in York Spit section; 42 feet deep and 800 feet wide in Rappahannock Spit section and in approach channel to Baltimore and bends; channels 42 feet deep and 600 feet wide in Curtis Bay and Ferry Bar sections of harbor; a connecting channel 35 feet deep and 600 feet wide from main channel to approach channel to Chesapeake and Delaware Canal; and for three disjointed sections of channels of same depth and width in Chesapeake Bay leading to Chesapeake and Delaware Canal; and to provide Federal maintenance of 39-foot depth in Northwest Branch, in areas dredged to that depth by local interests.	H. Doc. 86, 85th Cong., 1st Sess.
	Dec, 31, 1970	Deepening of the Cape Henry Channel to 50 feet at the existing width of 1,000 feet, with widening at bends; deepening of the Spit Channel to 50 feet at the existing width of 1,000 feet, with widening at bends; enlargement of the Rappahannock Shoal Channel to a depth of 50 feet and a width of 1,000 feet; deepening of the main ship channel from Chesapeake Bay to Fort McHenry to	H. Doc. 181, 94th Cong., 1st Sess.

		a depth of 50 feet at the existing width of 800 feet, with widening at bends and at the Craighill Entrance; deepening of the Curtis Bay Channel to a depth of 50 feet at the existing width of 600 feet, and deepening of the 950-foot wide and 980-foot long turning basin at the head of channel to the same depth; deepening of the Northwest Branch--East Channel to a depth of 49 feet from the depth existing at the time of construction at a width of 600 feet, and deepening of the 950-foot wide and 950-foot long turning basin at the head of the channel to the same depth; and deepening and extension of the Northwest Branch--West Channel to a depth of 40 feet from the depth existing at the time of construction, at a width of 600 feet, and with an irregularly shaped turning basin at the head of the channel 40 feet deep and about 2,000 feet long with a maximum width of 1,150 feet.	
2.		**BALTIMORE HARBOR ANCHORAGES AND CHANNELS, MD**	
	Aug. 17, 1999	Widen and deepen two existing Federal anchorages; widen several connecting channels; provide a new turning basin near Fort McHenry; and provide a a new branch channel within the Port of Baltimore.	Chief of Engineers Report dated Jun 8, 1998
3.		**BALTIMORE HARBOR, MD, COLLECTION AND REMOVAL OF DRIFT**	
	Jun. 30, 1948	Collection and removal of drift from Baltimore Harbor and its tributary waters.	River and Harbor Act of 1948
4.		**CHESTER RIVER, MD**	
	Mar. 3, 1873	A channel 7 feet deep at mean low water and 100 feet wide from Chester River to Eastern Bay through Kent Island Narrows.	H. Doc. 381 80th Cong., 1st Sess.
	Jun 30, 1948	A channel 7 feet deep at mean low water and 75 feet wide extending from the 7-foot depth in Kent Island Narrows 800 feet into Wells Cove with a basin of the same depth and 300 feet square at the head of the channel.	H. Doc. 380, 80th Cong., 1st Sess.[2]
	Sep. 19, 1980	A channel 6 feet deep at mean low water and 60 feet wide from Crumpton to Jones Landing.	H. Ex. Doc. 65, 51st Cong., 1st Sess.
5.		**HERRING BAY AND ROCKHOLD CREEK, MD**	
	Jul. 3, 1930	A channel 60 feet wide, 5 feet deep, from the 6-foot contour in Herring Bay to the 3-foot contour in Rockhold Creek.	Rivers and Harbors Committee Doc. 34, 71st Cong., 2nd Sess.
	Jun. 20, 1938	For the present project channel dimensions, 7 feet deep and 60 feet wide, the turning basin 7 feet deep, and a stone breakwater 900 feet long.	H. Doc. 595 75th Cong., 3rd Sess.[2]
6.		**HONGA RIVER AND TAR BAY, MD**	
	Aug. 30, 1935	Channel 60 feet wide and 7 feet deep from the 7-foot contour in Chesapeake Bay through Tar Bay and Fishing Creek to the 7-foot contour in Honga River.	Rivers and Harbors Committee Doc. 35, 74th Cong., 1st Sess.
	Jun. 30, 1948	Modification providing for a channel in Back Creek 7 feet deep and 60 feet wide from the 7-foot depth curve in Honga River to a point near the head of Back Creek, with a turning basin of the same depth, 150 feet long and 200 feet wide.	H. Doc. 580, 80th Cong., 2nd Sess.
7.		**LITTLE WICOMICO RIVER, VA**	
	Aug. 30, 1935	A channel 8 feet deep and 150 feet wide from Potomac River to deep water in Little Wicomico River; two stone jetties 1,000 feet and 1,300 feet long at the entrance; and 1,004 linear feet of timber bulkhead to stabilize the dredged inner channel.	Rivers and Harbors Committee Doc. 24, 72nd Cong., 1st Sess.

8.		**NANTICOKE RIVER, MD**	
	Aug. 26, 1937	A small boat harbor 7 feet deep, 120 feet wide, and 400 feet long in the marsh at Nanticoke with an entrance channel of the same depth and 60 feet wide protected on either side by stone jetties in the river.	H. Doc. 242, 75th Cong., 1st Sess.[2]
9.		**NANTICOKE RIVER, DE AND MD**	
	Jun. 3, 1896	A 9-foot channel, 100 feet wide up to Seaford, DE, with a turning basin.	H. Doc. 333, 53rd Cong.,3rd Sess., and Annual Report, 1985, p. 1165.
	Jun. 25, 1910	Slight widening between bridges in harbor at Seaford, DE.	H. Doc. 674, 61st Cong., 2nd Sess.
	Jun. 25, 1910	A channel 6 feet deep, 60 feet wide in Northwest Fork, together with turning basin.	H. Doc. 869, 60th Cong., 1st Sess.
	Mar. 2, 1945	A channel 12 feet deep, 100 feet wide from 12-foot contour in Tangier Sound to highway bridge at Seaford, DE.	S. Doc. 69, 77th Cong., 1st Sess.
10.		**NEALE SOUND, MD**	
	Aug. 26, 1937	Channel 7 feet deep and 100 feet wide through lower entrance into Wicomico River and a second channel 6 feet deep at upper entrance entending from deep water within the sound through a marshy barrier at head of Cobb Island to deep water in the Potomac with widths of 60 feet within the sound and 80 feet elsewhere.	H. Doc. 159, 75th Cong., 1st Sess.
	Jul. 13, 1999 Sec. 107	A channel 7 feet deep and 100 feet wide at the lower entrance to Neale Sound, from deep water within the Sound to deep water in the Wicomico River; a channel 6 feet deep and 80 foot wide in the Potomac River to deep water within the sound at the upper entrance. This project provides for a 1,650 foot stone jetty to protect the upper channel from shoaling.	Detailed Project Report, Feb. 28, 1997
11.		**NORTHEAST RIVER, MD**	
	Aug. 26, 1937	Channel 60 feet wide and 7 feet deep from that depth in the river to the foot of Church Street in the town of North East, enlarged at its upper end to form a basin 120 feet wide and 300 feet long.	H. Doc. 248 75th Cong., 1st Sess.
12.		**OCCOQUAN CREEK, VA**	
	Dec. 5, 1890	Channel 6 feet deep and 100 to 150 feet wide through four bars and construction of dikes.	Annual Report for 1801, p. 1254
	Mar. 2, 1907	Extending channel 6 feet deep and 150 feet wide through outer bar.	H. Doc. 190, 59th Cong., 1st sess. (The latest published map is in H. Doc. 190, 63rd Cong., 2nd Sess.)
13.		**OCEAN CITY HARBOR AND INLET AND SINEPUXENT BAY, MD**	
	Aug. 30, 1935	Construction of an inlet between the Atlantic Ocean and Sinepuxent Bay, 10 feet deep and 200 feet wide, protected by jetties; a channel 8 feet deep and 100 feet wide from the inlet to Ocean City, 6 feet deep and 150 feet wide to Green Point, and 100 feet wide into Chincoteague Bay.	Rivers and Harbors Committee Doc. 38, 72nd Cong., 1st Sess.
	Aug. 30, 1935	Modification providing a 10-foot by 100-foot channel from the inlet to the west side of the bay with two turning basins; a channel 6 feet deep and 125 feet wide from the inlet to Ocean City, 6 feet deep and 150 feet wide to Green Point feet wide into Isle of Wight Bay.	Rivers and Harbors Committee Doc. 60, 74th Cong., 1st Sess.

	Sep. 3, 1945	Modification providing for raising the north jetty to an elevation 9 feet above mean low water, and a channel 300 feet wide and 16 feet deep from the ocean through the inlet to the Isle of Wight Bay Channel, thence 200 feet to the project harbor, and a depth of 14 feet in the project harbor. Channel depths refer to project datum.	H. Doc. 444, 82nd Cong., 2nd Sess.
14.		**POTOMAC & ANACOSTIA RIVERS, DC, COLLECTION & REMOVAL OF DRIFT**	
	Oct. 27, 1985	Collection and removal of drift from waters of the Potomac and Anacostia Rivers and their tributaries in the Washington, DC area from the head of the tidewater to Mount Vernon. VA	H. Doc. 286, 89th Cong., 1st Sess.
15.		**POTOMAC RIVER AT MT. VERNON, MD**	
	Mar. 3, 1879	Channel 6 to 7 feet deep, 150 feet wide, from Potomac River channel to Mount Vernon wharf, with turning basin at wharf.	Annual Report, 1879, vol. 1, p. 83.
		Channel increased to 9- to 10-feet depth, 200-foot width, turning basin to have 200-foot radius.	Annual Report, 1888, vol. 1, p. 814.
16.		**POTOMAC RIVER BELOW WASHINGTON, DC**	
	Mar. 3, 1899	A channel 24 feet deep and 200 feet wide between mouth at Chesapeake Bay and Giesboro Point at Washington, DC, a distance of 108 miles.	H. Doc. 33, 52nd Cong., 1st Sess.
17.		**PREVENTION OF OBSTRUCTIONS AND INJURIOUS DEPOSITS, BALTIMORE HARBOR, MD**	
	Aug. 30, 1935	Continuous patrol and inspection of Baltimore Harbor, Chesapeake Bay, and its tributaries to prevent and detect violations, and issue permits as required for transporting and despositing waste materials in navigable waters. (The project is limited to the tidal waters of Chesapeake Bay and its tributaries that lie within the State of Maryland.)	River and Harbor Act, June 28, 1888 as amended by Public Law 85-802, dated August 29, 1959
18.		**RHODES PT TO TYLERTON, MD**	
	Jan. 22, 1982 Sec. 107 Jul. 14, 1960	A channel 6 feet deep and 50 feet wide at mean low water from Tylerton to limit of existing Rhodes Point to Tylerton Federal navigation channel, a distance of about one mile, through Sheep Pen Gut to deep water in the Chesapeake Bay.	Detailed Project Report, June 1981
	Sep. 3, 1954	A channel 4 feet deep at mean low water and 50 feet wide from Tylerton to Rhodes Point via Rhodes Point Gut.	H. Doc. 51 82nd Cong., 1st Sess.[2]
	Aug. 1, 1968 Sec. 107 Jul. 14, 1960	Modification providing for a channel 6 feet deep and 50 feet wide from that depth in Tyler Creek to and including an anchorage basin of the same depth 150 feet wide and 400 feet long at Tylerton; channel 6 feet deep and 50 feet wide from that depth in Shanks Creek to and including an anchorage basin of the same depth 100 feet wide and 400 feet long at Rhodes Point' channel 6 feet deep and 50 feet wide from that depth in Big Thorofare River to Tylerton; channel 6 feet deep and 50 feet wide from Rhodes Point to Tylerton.	Detailed Project Report, February 1968
19.		**SHALLOW CREEK**	
	May 22, 1987 Sec. 107	Dredging a navigation channel, 5 feet deep at mean low water, 50 feet wide, and 2,700 feet long from the Patapsco River to a turning basin, 100 feet wide by 100 feet long at the head of creek.	Detailed Project Report Jan. 1986
	Jul. 13, 1999 Sec. 107	Dredging a navigation spur channel, 4 feet deep at mean low water, 30-40 feet wide and 1,940 feet long from the existing Federal channel into the northern reach of the creek.	Detailed Project Report, May 21, 1996

20.		**ST. JEROME CREEK, MD**	
	Aug. 26, 1937	A channel 7 feet deep and 100 feet wide at Airedele, thence 7 feet deep and 60 feet wide to deep water in the creek, with a turning basin of the same depth 200 feet wide and 300 feet long opposite Airedele.	H. Doc. 174, 75th Cong., 1st Sess.[1]
21.		**TOLCHESTER CHANNEL S-TURN, MD**	
	Aug. 5, 1999	Dredge a new straight channel 35 feet deep, 600 feet wide, and 2 miles long to replace the existing Tolchester Channel S-Turn off Tolchester Beach.	Water Resources Dev. Act of 1999
22.		**TWITCH COVE AND BIG THOROFARE, MD**	
		A channel 4 feet deep and 25 feet wide from Tangier Sound into Big Thorofare River, and one of same dimensions around point between said river and Tyler River.	H. Doc. 285, 62nd Cong., 2nd Sess.
23.		**UPPER THOROFARE DEAL ISLAND, MD**	
	Aug. 30, 1935	A 9-foot channel 75 feet wide protected by breakwater at entrance, with turning basin at inner end and anchorage area 6 feet deep and 150 foot wide.	Rivers and Harbors Committee Doc. 37,
	Aug 26, 1937	Widen entrance channel to 100 feet, extend 9-foot turning basin and 6-foot anchorage, and dredging an additional anchorage area on north side of channel.	H. Doc. 76, 75th Cong., 1st Sess.[1]
24.		**WASHINGTON HARBOR, DC**	
	Aug. 30, 1935	Provides for: (a) Virginia Channel, from Giesboro Point to area for 25,000 square feet; (b) Washington Channel, from Haines Point to head of Washington Channel, 24 feet deep and 400 feet wide; (c) Anacostia River from Giesboro Point to Anacostia Bridge, 24 feet deep and 400 feet wide, with turning basin 800 feet wide and about 2,400 feet long of same depth opposite Naval Weapons Plant, (d) Anacostia River from Anacostia Bridge 24 feet deep and 200 feet wide to turning basin 400 feet square of same depth at foot of 15th Street SE Channel lengths including turning basins are: Virginia Channel, 25,000 feet; Washington Channel, 10,000 feet; and Anacostia River, 15,000 feet; and (e) operation and maintenance of inlet gates and lock and outlet gates of Tidal Basin constructed under a previous project to flush Washington Channel.	Rivers and Harbors Committee Doc. 22, 74th Cong., 1st Sess.[2]
25.		**WICOMICO RIVER, MD**	
	Sep. 19, 1890	Channel 9 feet deep from Main Street Bridge to about 2 miles below.	H. Doc. 20, 51st Cong., 1st Sess., and Annual Report 1890, p. 947
	Jun. 25, 1910	Extend 9-foot depth into north prong from Main Street Bridge to the Salisbury Dam and turning basin.	H. Doc. 569, 61st Cong., 2nd Sess.
	Mar. 2, 1919	Extend 9-foot depth into south prong to head of navigation at Cathell Street, including a turning basin, and extend project down to mouth of river in Monie Bay.	H. Doc. 1509, 63rd Cong., 3rd Sess.
	Jul. 3, 1930	A 12-foot channel below the Main Street Bridge.	

	Aug. 26, 1937	A 14-foot channel, 150 feet wide; depths of 14 feet in the north and south prongs and a basin 6 feet deep at Webster Cove and approach channel thereto of the same depth.	Senate Committee Print, 75th Cong., 3rd Sess.[2]
	Sep. 3, 1954	Enlarge existing basin at Webster Cove, by dredging an extension 6 feet deep, 100 feet wide, and 200 feet long on each side of existing basin to form a T-shaped harbor.	H. Doc. 619, 81st Cong., 2nd Sess.[2]
29.		**ASSATEAGUE ISLAND, MD**	
	Oct. 12, 1996	Provides for expediting the Assateague Island restoration feature of the Ocean City, Maryland and vicinity study with a Federal appropriation limit of $35 million.	P.L. 104-303
30.		**ATLANTIC COAST OF MARYLAND**	
	Nov. 17, 1986	Consists of a dune beginning at 27th Street extending north to the Delaware line; a steel sheetpile bulkhead from 27th Street south to Fourth Street; and widened and raised beach from Third Street to just beyond the Delaware line.	Report of the Chief of Engineers dated Sept. 29, 1981
31.		**COLONIAL BEACH, VA**	
	Sep. 15, 1980	Extending and widening the existing Central Beach area, stabilizing the bank behind the beachfill with vegetation, and constructing four segments of off-shore breakwater; and extending and widening of the existing Castle Beach area, constructing three segments of offshore breakwater, removing debris in the beachfill area, and constructing a 100-foot long terminal groin at the southern end of Castlewood Park beachfill.	Detailed Project Report, May 1980
32.		**BROAD TOP REGION, PA**	
	Oct. 31, 1992	Pilot program to develop and carry out a watershed reclamation and protection, and wetlands creation and restoration project using innovative reclamation technologies for the purposes of restoring, maintaining and protecting surface and ground water, including municipal water supplies, from adverse impacts related to acid mine drainage and other runoff.	P.L. 102-580
	Oct. 12, 1996	Provided for non-Federal sponsor credit for design and construction prior to PCA execution; allowed for Federal share of project costs to be provided in the form of grant or reimbursement of project costs.	P.L. 104-303
33.		**CUMBERLAND, MD, AND RIDGELEY, WV**	
	Jun. 22, 1936	Levees, retaining walls, movable dam, and channel clearing for Cumberland, West Cumberland and South Cumberland, MD and Ridgeley, WV.	H. Doc. 101, 73rd Cong., 1st Sess.
	Jul. 24, 1946	Levees, wall, channel improvement, remove Chesapeake and Ohio Canal Dam and construct new industrial dam.	Report on file in Sess.
34.		**HUDSON BRANCH, HOWARD COUNTY, MD**	
	Jul. 24, 1946 modified by Act of Mar 7, 1974	Construction of a 170-foot mechanically stabilized earth wall, designed with a historic granite facade to protect an eroding bank threatening to undermine the adjacent Colored School House, which is a historic site.	Emergency Bank Protection, Sec. 14 Report

35.		**ISLE OF WIGHT, WORCESTER COUNTY, MD**	
	Oct. 12, 1996	Restoration/creation of 7 to 10 acres of salt marsh along 2,400 linear feet of the southeastern shoreline of Isle of Wight.	Ecosystem Restoration Report
36.		**JENNINGS RANDOLPH LAKE, MD AND WV**	
	Oct. 23, 1962	Construction of Bloomington Lake project.	H. Doc. 469, 87th Cong., 2nd Sess.
37.		**LACKAWANNA RIVER BASIN, PA**	
	Oct. 23, 1962	Construction of Aylesworth Creek Lake, Fall Brook Lake, and local protection works on Lackawanna River at Scranton, Pennsylvania	S. Doc. 141, 87th Cong., 2nd Sess.
38.		**MOOREFIELD, WV**	
	Nov. 28, 1990	Levee, floodwall, closures, relocations, and improvements to the flood warning system.	Report of the Chief of Engineers dated July 23, 199
39.		**NEABSCO CREEK, VA**	
	Oct. 12, 1996	Provides for a flood control project in the Neabsco Creek Watershed in Prince William County.	P.L. 104-303
40.		**LACKAWANNA RIVER, OLYPHANT, PA**	
	Oct. 31, 1992	Provides for 3,800 feet of earth levee, 1,400 feet of concrete floodwall, a closure structure, interior drainage facilities, 1,500 feet of gabion slope protection and associated cultural mitigation and environmental restoration.	Report of the Chief of Engineers dated June 29, 1992
41.		**DICKSON CITY, PA**	
	Oct. 13, 1997	Provides for Corps to undertake activities leading to construction of flood control measures at Dickson City, with the same level of protection as Olyphant, PA.	P.L. 105-62
42.		**RAYSTOWN LAKE, RAYSTOWN BRANCH, JUNIATA RIVER, PA**	
	Oct. 23, 1962	Construction of dam and appurtenant facilities.	H. Doc. 565, 87th Cong., 2nd Sess.
43.		**LACKAWANNA RIVER, SCRANTON, PA**	
	Oct. 31, 1992	Provides for 5,800 feet of earth levee, 1,700 feet of concrete floodwall, 3 closure structures, interior drainage facilities, 2,700 feet of gabion slope protection, an improved flood warning system, removal of a railroad bridge, access ramp, and associated cultural mitigation.	Report of the Chief of Engineers dated June 29, 1992
	Modified by Act of Oct. 12, 1996	Directs Secretary to carry out the project for Plot and Green Ridge sections and allows non-Federal interest to participate in the financing of the project in accordance with Section 903(c) of WRDA 86.	P.L. 104-303
44.		**OCEAN PINES, WORCESTER COUNTY, MD**	

	Oct. 12, 1996	Restoration of 6.3 acres of filled salt marsh to tidal salt marsh.	Ecosytem Restoration Report
45.		**WILLIAMSPORT, PA - HAGERMAN'S RUN**	
	Oct. 13 1997	Directs the Secretary of the Army to use $225,000 to construct necessary repairs to the flume and conduit for flood control at the Hagerman's Run project.	P.L. 105-62
46.		**VA & WV FLOODING PROGRAM**	
	Oct. 12, 1996	Provides for design and construction of structural and non-structural flood control, streambank protection, stormwater management and channel clearing and modification measures in the West Branch Susquehanna River and Juniata River Basins in Pennsylvania.	P.L. 104-303
	Aug. 17 1999	Requires flood protection not less than 100-year level for measures that incorporate levees or floodwalls.	P.L. 106-53
47.		**SOUTHERN NEW YORK FLOOD CONTROL PROJECTS**	
	Jun. 22, 1936 modified by Acts of Jun. 28, 1938 Aug. 18, 1941; Dec. 22, 1944; May 17, 1950; and Jul. 3, 1958	Construction of detention reservoirs and related flood control works for protection of Binghamton, Hornell, Corning and other towns in New York and Pennsylvania.	H. Doc. 702, 77th Cong., 2nd Sess.
48.		**STILLWATER LAKE, LACKAWANNA RIVER, PA**	
	Aug. 18, 1941	Construction of a flood control reservoir.	H. Doc. 702, 77th Cong., 2nd Sess.
49.		**SUSQUEHANNA RIVER FLOOD CONTROL PROJECTS, NY AND PA**	
	Jul. 3, 1958	Construction of Cowanesque and Tioga-Hannond reservoirs, local flood protection works at Elkland, PA, and Nichols, NY and channel improvement at Cortland, NY.	H. Doc. 702, 77th Cong., 2nd Sess.
	Oct. 22, 1976	Modification in connection with the construction of Cowanesque Lake to relocate the Town of Nelson, PA, to a new townsite.	H. Doc. 394, 84th Cong., 2nd Sess.
	Mar. 1, 1983	Modification of Cowanesque Lake to include water supply as provided by Section 4 of the Flood Control Act of 1944 (PL 78-534) and Section 301 of Water Supply Act of 1958 (PL 85-500).	
50.		**WEST BRANCH OF SUSQUEHANNA RIVER, PA**	
	Sep. 3, 1954	Construction of three flood control reservoirs.	H. Doc. 29, 84th Cong., 1st Sess.

51.		**WYOMING VALLEY, PA (LEVEE RAISING)**	
	Nov. 17, 1986	Modification provides for raising existing levees and floodwalls between 3 and 5 feet, modifying closure structures, relocating utilities and providing some new floodwalls and levees to maintain the integrity of the existing flood control system.	Report of the Chief of Engineers dated October 19, 1983
52.		**YORK, INDIAN ROCK DAM, PA**	
	Jun. 22, 1936	Construction of Indian Rock Dam and channel improvements on Codorus Creek.	H. Doc. 702, 77th Cong., 2nd Sess.
56.		**ANACOSTIA RIVER AND TRIBUTARIES, MD AND DC**	
	Oct. 12, 1996	The project consists of two wetland restoration sites in the District of Columbia, one stream restoration site and one stormwater wetland site in Prince George's County, and nine stream restoration and stormwater wetland sites in Montgomery County. The project will restore a total of 80 acres of tidal and non-tidal freshwater wetlands, 5 miles of piedmont streams, and 33 acres of bottomland hardwood forest within the highly urbanized Anacostia River watershed.	Report of the Chief of Engineers, dated November 15, 1994
57.		**CHESAPEAKE BAY OYSTER RECOVERY, MD**	
	Nov. 17, 1986	Contributes to multi-agency and private efforts to restore oyster populations in the Maryland portion of the Chesapeake Bay.	P.L. 99 - 662
58.		**CHESAPEAKE BAY ENVIRONMENTAL RESTORATION**	
	Oct. 12, 1996	Establishes a pilot program to provide environmental design and construction assistance to new Federal interests in the Chesapeake Bay watershed.	P.L. 104-303
59.		**POPLAR ISLAND, MARYLAND**	
	Oct. 12, 1996	The project consists of reconstructing Poplar Island to its approximate size in 1847 (1,110 acres), using an estimated 38 million cubic yards of uncontaminated dredged material from maintenance dredging of the southern approach channels of the Baltimore harbor and Channels navigation project.	Report of the Secretary of the Army, dated September 3, 1996
60.		**SOUTH CENTRAL PA ENVIRONMENTAL IMPROVEMENT PROGRAM**	
	Oct. 31, 1992	Pilot program for providing environmental assistance to non-Federal interests in South Central Pennsylvania.	P.L. 102-580
	Modified by Acts of Nov. 13, 1995	Expanded scope to include 15 counties; increased program authorization limits to $50 million; provided for non-Federal sponsor credit for design and construction prior to PCA execution; allowed for Federal share of project costs to be provided in the form of grants or reimbursement of project costs; and provided the non-Federal sponsors to receive credit for reasonable interest to provide non-Federal share of project's cost.	P.L. 104-46
	Oct. 13, 1997	Increased program authorization to $80 million and allowed for more non-Federal credits.	P.L. 104-303
		Added six counties to the program area.	P.L. 105-62

1. Exclusive of portion considered inactive. Inactive portion is widening 35-foot depth channel from 150 to 400 feet from Port Covington to Ferry Bar, widening 27-foot depth channel from 150 to 250 feet to Hanover Street Bridge, and providing a channel 127 feet deep by 250 feet wide to Western Maryland Railway Bridge with an anchorage and turning basin at the upper end.
2. Contains latest published maps.
3. Included in Public Works Administration program September 16, 1993. The site chosen for the inlet under this authorization was opened just south of Ocean City by natural forces during a severe storm in August 1933. This eliminated the necessity for an 8-foot channel from the inlet to Ocean City.
4. Included in Emergency Relief Program 1935.
5. Raising of the north jetty to an elevation of 9 feet above mean low water was accomplished with maintenance funds in 1956.

TABLE 4-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	Report	Cost to September 30, 2001: For Last Full Report See Annual Construction	Cost to September 30, 2001: Operation and Maintenance
Accotink Creek, VA[1]	Completed	1878	$ 5,000	$ ---
Anacostia River and Flats[2]	Deferred	1953	3,910,582	---
Annapolis Harbor, MD	Completed	1993	34,250[3]	51,366
Aquia Creek, VA	Inactive	1928	52,465[4]	11,770
Back Creek, MD	Completed	1946	23,061	41,378
Black Walnut Harbor, MD	Completed	1982	32,631	431,478
Bonum Creek, VA	Completed	1993	202,200	468,464
Branson Cove, Lower Machodoc River, VA	Completed	1950	15,755	35,684
Breton Bay, MD[6]	Completed	1950	47,924[6]	47,593
Broad Creek River, DE	Completed	1964	64,510	167,952
Cambridge Harbor, MD	Completed	1993	195,974[8]	946,934
Chester River, Bodkin Island, MD	Deferred	2000	67,000	0
Choptank River, MD[10]	Completed	1979	96,796	104,230
Claiborne Harbor, MD[1]	Deferred	1987	42,974	709,047
Corsica River, MD	Completed	1948	39,071[11]	134,770
Crisfield Harbor, MD	Completed	1998	416,736[12]	1,895,645
Cypress Creek, MD	Completed	1947	3,057	14,729
Duck Point Cove, MD	Completed	1982	25,289	353,188
Elk and Little Elk rivers, MD[13]	Completed	1932	90,121[14]	53,808[15]
Fishing Bay, MD	Completed	1998	34,074[16]	2,161,260
Goose Creek, MD	Completed	1973	75,900	22,013
Herring Creek, MD[17]	Completed	1989	1,506,259	1,124,317
Herring Creek, Tall Timbers, MD	Completed	1998	1,504,297	216,265
Knapps Narrows, MD	Completed	2001	23,836	1,207,831
LaTrappe, MD	Completed	1980	8,064[19]	40,475
Little Creek, Kent Island, MD	Completed	1958	23,000	7,327
Little Falls Dam Fish Passage #2, MD	Completed	2001	1,407,918	404,755
Loch Haven, PA	Completed	2001	55,323,950	6,878,038
Lowes Wharf, MD	Completed	1986	2,100	327,530
Lower Machodoc Creek, VA	Completed	1904	9,916	30,432
Lower Thorofare, Deal Island, MD	Completed	2000	1,832,411	1,264,372
Madison Bay, MD[17]	Completed	1977	125,550	42,643
Manokin River, MD[20]	Completed	1919	34,788[21]	43,534
Middle River and Dark Head Creek, MD	Completed	1947	38,715[22]	96,785
Monroe Bay and Creek, VA	Completed	1994	22,434	483,685
Muddy Hook Tyler Coves, MD	Completed	1996	64,001	687,568
Nan Cove, MD[4]	Completed	1965	34,861[23]	33,138
Nanticoke River at Bivalve, MD	Completed	1983	240,817	142,131
Neabsco Creek, VA	Completed	1998	57,841	1,947,744
Neale Sound, MD	Completed	1991	12,600[24]	945,585
Neavitt Harbor, MD[17]	Completed	1968	36,500	45,019
Nomini Bay and Creek, VA[25]	Completed	1946	78,446	42,063
Parish Creek, MD	Completed	1988	19,170[27]	533,808
Patuxent River, MD[13]	Completed	1905	14,000[28]	---
Petersburg, WV	Completed	2001	18,554,009[43]	0
Pocomoke River, MD	Completed	1995	191,726[29]	3,454,849
Pocomoke River at Alexandria, VA	Completed	2001	95,214	1,957,668
Potomac River - Aquatic Plant Control, MD, VA, and DC	Completed	1998	2,363,589	292,116

Potomac River and Tributaries at and below Washington, DC, Elimination of Waterchestnut	Completed	1977	---	184,394
Potomac River at Lower Cedar Point, MD	Completed	1920	10,234	6,216
Potomac River North Side of Washington Channel, DC[1]	Completed	1956	1,744,692[30]	27,461[31]
Queenstown Harbor, MD	Completed	1985		
72,858			321,803	
Rock Hall Harbor, MD	Completed	1998	1,072,500[33]	457,157
Shad Landing State Park, MD	Completed	1966	33,531	19,198
Slaughter Creek, MD	Completed	1994	4,140[35]	682,983
St. Catherine's Sound, MD	Completed	1989	29,947	659,369
St. George's Creek, MD	Completed	1985	147,650[36]	---
St. Michael's Harbor, MD	Completed	1964	16,723	35,666
St. Patrick's Creek, MD	Completed	1987	15,752	151,849
St. Peter's Creek, MD[17]	Completed	1963	46,740[37]	41,223
Smith Creek, MD	Completed	1936	5,252	16,448
Susquehanna River above and below Havre De Grace, MD	Completed	1985	293,570[38]	859,051
Susquehanna River at Williamsport, PA[17]	Completed	1974	57,031[39]	41,437
Tilghman Island Harbor, MD	Completed	1996	424,800	464,788
Tedious Creek, MD	Completed	1998	2,330,013[40]	0
Town Creek, MD	Completed	1950	43,220	62,386
Tred Avon River, MD	Completed	1994	523,310	927,949
Tuckahoe River, MD	Completed	1980	9,727	23,489
Tyaskin Creek, MD	Completed	1923	19,297[41]	54,302
Upper Machodoc Creek, VA	Completed	1971	20,281	34,777
Warwick River, MD	Completed	1984	22,041[43]	148,728

1. Unconstructed portion of the project was deauthorized August 5, 1977.
2. Project deferred for restudy.
3. Includes $8,476 for previous projects.
4. Includes $31,065 for previous projecst.
5. Excludes $3,998 contributed funds.
6. Includes $37,500 for previous projects.
7. Includes $50,000 for previous projects.
8. Excludes $3,998 contributed funds and includes $61,321 for previous projects.
9. Includes $40,041 for previous projects.
10. Authorization for the unconstructed portion of the project was withdrawn by the Chief of Engineers January 22, 1979.
11. Includes $30,000 for previous projects.
12. Includes $87,741 for previous projects.
13. Unconstructed portion of the project was deauthorized November 2, 1979.
14. Includes $79,626 for previous project and excludes $8,414 contributed funds.
15. Includes $24,321 for previous projects.
16. Includes $2,840 for previous projects.
17. Authorized by Chief of Engineers.
18. Excludes $10,306 contributed funds.
19. Excludes $1,100 contributed funds.
20. Abandonment recommended in 1926 (H. doc. 467, 69th Cong., 1st Sess.)
21. Includes $2,000 expended outside project limits.
22. Excludes $111,581 expended by Navy Department and 52,000 from contributed funds.
23. Excludes $565 contributed funds.
24. Excludes $1,000 contributed funds.
25. Unconstructed portion of the project was deauthorized November 6, 1977.
26. Includes $25,000 for previous projects.
27. Includes $19,170 Works Progress Administration funds.
28. Includes $10,617 for previous projects.
29. Unconstructed portion of the project is inactive. Includes $20,500 for previous projects.
30. Excludes $389,000 contributed funds.
31. Excludes $101,162 Public Health Service funds expended for waterchestnut removal.
32. Includes $19,000 for previous projects.
33. Excludes $672,880 contributed funds.
34. Excludes $24,125 contributed funds.
35. Excludes $600 contributed funds.
36. Includes $26,500 for previous projects.
37. Excludes $6,984 contributed funds.
38. Unconstructed portion of the project was deauthorized November 6, 1977. Includes $22,905 Works Progress funds and $97,390 for previous projects.
39. Excludes $40,000 contributed funds.
40. Excludes $10,158 contributed funds.
41. Includes $6,000 for previous projects.
42. Excludes $344,952 contributed funds.
43. Excludes $80,000 contributed funds.

TABLE 4-D OTHER AUTHORIZED BEACH EROSION CONTROL PROJECTS

Project	Status	For Last Full Report See Annual Report	Cost to September 30, 2001 Construction	Cost to September 30, 2001 Operation and Maintenance
Oxford, MD[1]	Complete	1978	97,750[2]	---
Punch Island Road, MD	Complete	1996	199,105	---
Town of North Beach, MD	Complete	1995	450,610[3]	---

1. Authorized by Chief of Engineers.
2. Excludes $80,648 contributed funds.
3. Excludes $245,262 contributed funds.

TABLE 4-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Status	Full Report See Annual Report	Cost to September 30, 2001 Construction	Cost to September 30, 2001 Operation and Maintenance
Anacostia River and Tributaries Flood Protection and Navigation Improvements, DC and MD	Completed	1995	$ 6,042,325	$3,735,979 [1]
Anacostia River and Tributaries, Prince Georges Co., MD[2]	Completed	1977	1,000,000 [3]	---
Bainbridge, NY[3,4]	Completed	1959	382,000	---
Bath, NY[5]	Completed	1970	638,332	---
Bayard, WV[4]	Completed	1965	55,218 [6]	---
Black Walnut Point, MD	Completed	1985	200,500	---
Bridgewater, VA[4]	Completed	1953	136,500	---
Bull Run, PA	Completed	1984	2,742,000	---
Chesapeake Bay at Hoopersville Road, MD	Completed	1993	156,491 [7]	---
Conklin-Kirkwood, NY[4]	Completed	1955	71,000	---
Cortland, NY[8]	Completed	1970	24,486	---
Elkland, PA	Completed	1971	1,297,850	---
Endicott Johnson City and Vestal, NY	Completed	1979	7,034,534 [9]	---
Forest Heights, MD[4]	Completed	1964	430,000 [10]	---
Fourmile Run, VA	Completed	1987	52,480,000	---
Hills Point Road, Dorchester Co., MD[3]	Completed	1989	186,077	---
Greene, NY[4]	Completed	1951	37,000	---
Kingston-Edwardsville, PA	Completed	1979	4,731,394 [11]	---
Kitzmiller, MD[4]	Completed	1965	501,500 [12]	---
Isle of Wight Bay, Ocean City, MD[4]	Completed	1992	972,988	---
Latta Brook, Rd., NY	Completed	1984	115,500	---
McCready's Point Road, MD	Completed	1993	74,019 [13]	---
Middle Hooper Island, MD	Completed	1993	327,165 [14]	---
Nichols, NY	Completed	1974	1,487,800	---
Norwich, NY[4]	Completed	1950	94,500	---
Painted Post, NY[5]	Completed	1970	414,181	---
Paxton Creek, Harrisburg, PA	Completed	1998	48,509 [15]	---
Plymouth, PA	Completed	1958	1,911,689 [16]	---
Rooster Island, Dorchester County, MD	Completed	1998	753,791 [17]	---
Savage River Dam, MD	Completed	1954	2,271,939 [18]	33,999
Scranton, PA[19]	Completed	1971	2,006,800	---
Spring Brook Creek, Pittston Township, PA	Completed	1993	425,960 [20]	---
Solomon Creek, Ashley Borough, Luzerne County, PA	Completed	1993	70,441 [21]	---
Solomons Island, Calvert County, MD	Completed	1993	126,049 [22]	---
Sunbury, PA	Completed	1953	6,063,000 [23]	---
Swoyersville-Forty Fort, PA	Completed	1968	2,728,113	---
Tunkhannock Creek, Tunkhannock, PA	Completed	1991	174,491 [24]	---
Tyrone, PA[25]	Deferred	1980	6,401,016	---
Unadilla, NY	Completed	1965	1,000,000 [26]	---
Upper Marlboro, MD[4]	Completed	1965	590,013	---
Verona Lake, VA[27]	Deferred	1978	992,000	---
Washington, DC and Vicinity	Completed	1953	331,927 [28]	---
Wilkes-Barre, Hanover Township, PA	Completed	1958	3,853,457 [29]	---
Williamsport, PA	Completed	1979	12,964,893 [30]	---
Wyoming Valley, PA	Completed	1987	25,549,098	---

1. Includes $49,998 emergency relief funds.
2. Local interests will not accept operation and maintenance responsibility of the project until the severe erosion and sedimentation of the project caused by tropical storm Eloise is corrected and the project is restored to design condition.
3. Excludes $357,022 contributed funds.
4. Authorized by Chief of Engineers.
5. Unit of Southern New York Flood Control Projects.
6. Excludes $182,672 Public Works Acceleration funds and $4,290 contributed funds.
7. Excludes $67,954 Contributed funds.
8. Unit of Susquehanna River Flood Control Projects.
9. Excludes $154,694 contributed funds.
10. Excludes $87,720 contributed funds.
11. Includes $1,162,548 emergency relief funds and excludes $225,877 emergency relief funds expended prior to adoption of project.
12. Excludes $6,616 contributed funds.
13. Excludes $42,081 contributed funds.
14. Excludes $137,900 contributed funds.
15. Excludes $14,917 contributed funds.
16. Includes $4,357 emergency relief funds.
17. Excludes $278,801 contributed funds.
18. Includes $200,000 expended from contributed funds.
19. Unit of Lackawanna River Basin Projects.
20. Excludes $126,255 contributed funds.
21. Excludes $25,014 contributed funds.
22. Excludes $51,666 contributed funds.
23. Excludes $140,504 contributed funds.
24. Excludes $53,383 contributed funds.
25. The unconstructed portion of the project was reclassified to the deterred category January 8, 1981.
26. Excludes $132,578 contributed funds.
27. Authorized for the design memorandum state of advanced engineering and design.
28. Cost of previous project. Includes $106,500 emergency relief funds.
29. Includes $872,715 emergency relief funds. Excludes $36,375 emergency relief funds expended for new work before adoption of project.
30. Includes $1,887 emergency relief funds and excludes $110,835 contributed funds.

TABLE 4-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For	Date and Authority	Federal Funds Expended	Contributed Funds Expended
Almond Village, NY[1,2]	1970	May 26, 1953 1941 Flood Control Act	$ 24,622[3]	---
Baltimore Harbor & Channels, MD (Ferry Bar & Spring Garden Channel)	1920	Nov. 17, 1986 1966 Water Res. Dev. Act	787,710	---
Betterton Harbor, MD	1960	Dec. 31, 1989 1986 Water Res. Dev. Act	3,482	---
Breton Bay, MD (1902 River & Harbor Act)	1950	Dec. 31, 1989 1986 Water Res. Dev. Act	10,424	---
Broadwater Creek, MD	1949	Nov. 6, 1977 1974 Water Res. Dev. Act	212	---
Cadle Creek, MD[2]	1949	Nov. 6, 1977 1974 Water Res. Dev. Act	---	---
Cambridge Harbor, MD (1948 River & Harbor Act)	1989	Dec. 31, 1989 1986 Water Res. Dev. Act	---	---
Channel Connecting Plain Dealing Creek and Oak	1940	Aug. 5, 1977 1974 Water Res. Dev. Act	112	---
Chester River, MD (1873 River & Harbor Act)	1988	Dec. 31, 1989 1986 Water Res. Dev. Act	25,419	---
Coan River, VA	1937	Aug. 5, 1977 1974 Water Res. Dev. Act	---	---
Copes Corner Lakes, NY[2]	1970	May 6, 1981 1974 Water Res. Dev. Act	106,700[3]	---
Cuckold Creek, MD[4]	1978	Jan. 22, 1979 1960 River and Harbor Act	5,720	---
Cunninghill Cove, MD[4]	1977	Jan. 22, 1979 1960 River and Harbor Act	11,200	---
Curwensville Lake (WaterLine), PA[5]	---	Nov. 18, 1991 1986 Water Res. Dev. Act	---	---
Davenport Center Lake, NY[2]	1970	May 6, 1981 1974 Water Res. Dev. Act	286,400[3]	---
Endicott, Johnson City, and Vestal (Remedial), NY[5]	---	Nov. 18, 1991 1986 Water Res. Dev. Act	---	---
Fall Brook Lake, PA[6]	1970	May 6, 1981 1974 Water Res. Dev. Act	46,100	---

Genegantslet Lake, NY	1954	May 6, 1981 1974 Water Res. Dev. Act	214,578[3]	---
Governors Run, MD	1950	Aug. 5, 1977 Res. Dev. Act	---	---
Harpers Ferry, WV	1937	Aug. 5, 1977 1974 Water Res. Dev. Act	---	---
Hellens Creek, MD	1950	Nov. 6, 1977 1974 Water Res. Dev. Act	---	---
Lake Ogleton, MD	1950	Nov. 6, 1977 1974 Water Res. Dev. Act	---	---
Marsh Creek Bridge, Foster Joseph Sayers Dam, PA[5]	---	Nov. 18, 1991 1986 Water Res. Dev. Act	---	---
Moorefield, WV	1941	Oct. 3, 1978 1974 Water Res. Dev. Act	7,928[3]	---
Neabsco Creek, VA (1881 River & Harbor Act)	1978	Dec. 31, 1989 1986 Water Res. Dev. Act	14,600	---
Ocean City Harbor and Inlet and Sinepuxent Bay, MD (1954 River & Harbor Act)	1989	Dev. 31, 1989 1986 Water Res. Dev. Act	---	---
Pocomoke River, MD & VA (1945 River & Harbor Act)	1989	Dec. 31, 1989 1986 Water Res. Dev. Act	---	---
Saint Georges Creek, MD	1971	Sep. 23, 1986 1974 Water Res. Dev. Act	---	---
Sixes Bridge Lake, MD & PA[7]	1974	Dec. 29, 1981 1974 Water Res. Dev. Act	---	---
South Plymouth Lake, NY	1953	May 6, 1981 1974 Water Res. Dev. Act	100,036[3]	---
Susquehanna River, Sunbury Closure Structure, PA[7]	---	Nov. 18, 1991 1986 Water Res. Dev. Act	---	---
Tyrone, PA	1980	Nov. 1, 1997 1992 Water Res. Dev. Act	6,401,016	---
Waterway from Little Choptank River to Choptank River, MD	1939	Aug. 5, 1977 1974 Water Res. Dev. Act	305	---
West Oneonta Lake, NY[2]	1970	May 6, 1981 1974 Water Res. Dev. Act	189,100[3]	---

1. Local cooperation withdrawn, project authorization expired May, 26, 1958.
2. Unit of Southern New York Flood Control Projects.
3. Cost for preliminary work only.
4. Project authorization was withdrawn by the Chief of Engineers.
5. Project deauthorized by Section 100(A) of Public Law 99-662.
6. Unit of Lackawanna River Basin Projects. Authorized for the design memorandum stage of advanced engineering and design.

TABLE 4-H RECONNAISSANCE AND CONDITION SURVEYS

Project	Date Survey Completed
MARYLAND	
Black Walnut Creek	May 2001
Crisfield Harbor	Aug 2001
Fishing Creek	Jul 2001
Herring Creek, St. Mary	Jul 2001
Lower Thorofare	Jul 2001
Pocomoke River	Jul 2001
Smith Creek	Jul 2001
Tilghman Island Harbor	May 2001

TABLE 4-I INSPECTION OF COMPLETED PROJECTS

Project	Date Inspected
MARYLAND	
Anacostia River Basin	October 2001
Cumberland	October 2001
Forest Heights	October 2001
Kitzmiller	October 2001
Upper Marlboro	October 2001
NEW YORK	
Addison	October 2001
Avoca	October 2001
Bainbridge--Newton Creek	October 2001
Bath--Cohocton River	October 2001
Binghamton	October 2001
Canisteo	October 2001
Cincinnatus	October 2001
Conklin-Kirkwood	October 2001
Corning-Monkey Run	October 2001
Cortland	October 2001
Elmira	October 2001
Endicott-Johnson City & Vestal	October 2001
Greene	October 2001
Hornell	October 2001
Latta Brook	October 2001
Lisle	October 2001
Nichols	October 2001
Norwich	October 2001
Owego	October 2001
Oxford	October 2001
Painted Post	October 2001
Port Dickinson	October 2001
Sherburne	October 2001
Unadilla	October 2001
Whitney Point	October 2001
PENNSYLVANIA	
Ashley	October 2001
Elkland	October 2001
Hanover	October 2001
Iwana FPP	August 2001
Kingston-Edwardsville	October 2001
Lock Haven	October 2001
Loyalsock	October 2001
Pittston	October 2001
Plymouth	August 2001
Scranton	October 2001
Solomon Creek	October 2001
South Williamsport	October 2000
Sunbury	October 2001
Swoyersville--Forty Fort	October 2001
Tunkhannock	October 2001
Tyrone	October 2001
Wilkes-Barre-Hanover Twp.	October 2001
Williamsport	October 2001

VIRGINIA	
Bridgewater	May 2001
Fourmile Run	October 2001
District of Columbia & MD Projects	October 2001
Anacostia River	October 2001
Washington, DC & Vicinity	October 2001
WEST VIRGINIA	
Bayard	October 2001
Moorefield	October 2001
Petersburg	October 2001
Ridgeley	October 2001

NORFOLK, VA DISTRICT

The district comprises the State of Virginia, except the Potomac, Roanoke, and Ohio River Basins; the entire area on the eastern shore of Virginia except for the project for Pocomoke River, Maryland and Virginia. On the west shore of Chesapeake Bay, all waterways south of Smith Point, VA, at the mouth of the Potomac River except the project for Little Wicomico River, VA. North Carolina, only the Chowan River Basin downstream to and including the mouth of the Meherin River, and the Dismal Swamp Canal Route of the Atlantic Intracoastal Waterway to the Albemarle Sound. West Virginia, only the James River Basin.

IMPROVEMENTS

NAVIGATION PROJECTS

1. APPOMATTOX RIVER, VA

Location. This river rises in Appomattox County, VA, flows northeasterly 137 miles, and empties into the James River at Hopewell, VA. The portion under improvement extends from its mouth to Petersburg, VA, a distance of 11 miles, which is the length of the tidal and navigable reach. (See National Ocean Service Chart No. 12251.)

Previous projects. For details see page 469 of Annual Report for 1938.

Existing project. This project provides for a channel 60 to 80 feet wide and 10 feet deep from the mouth of the river to a point 400 feet above Lieutenant Run; thence 80 feet wide and of such depth, not exceeding 10 feet, as can be obtained without rock excavation to the head of navigation at Petersburg; including a turning basin at the mouth of Lieutenant Run 410 feet long, 80 to 140 feet wide, and 10 feet deep. All depths are referred to mean low water.

The project also provides for a dam at Petersburg and the excavation for a width of from 200 to 300 feet of a diversion channel connecting the river above the dam with the river at a point 2.5 miles below; for about 1.7 miles of levees on the low grounds between the navigable and the diversion channels; for a highway bridge and a railway bridge across the diversion channel; and for other work incidental to the diversion channel.

Under ordinary conditions the mean tidal range is 2.9 feet and the extremes 2.4 and 3.3 feet. There are no records available of the heights of stage due to ordinary floods. These are estimated at 6 to 8 feet above mean low water at Petersburg, where the extremes are from 15.6 feet to 17.1 feet.

Local cooperation. Fully complied with. City of Petersburg, VA is the local sponsor. For details, see page 212 of Annual Report for 1969.

Terminal facilities. There are about 2,500 feet of wooden bulkhead and a shore landing in Petersburg Harbor. These facilities are in an abandoned, dilapidated condition and have not been used by commercial traffic on the river since 1950. There are two large recreational facilities now in operation on the Appomattox River. One is located about 2 miles downstream from Petersburg, VA and the other is at Hopewell, VA near the confluence of the Appomattox and the James. There is also a sand and gravel loading facility at Puddledock, located about 3 miles downstream from Petersburg, VA.

Operations during fiscal year. Work consisted of coordination and technical assistance to the City of Petersburg in their efforts to secure a site for placing contaminated dredged material.

2. ATLANTIC INTRACOASTAL WATERWAY BETWEEN NORFOLK, VA, AND ST. JOHNS RIVER, FL (NORFOLK DISTRICT)

Location. Two inland water routes approximately paralleling Atlantic coast south of Norfolk, VA ,between a point in Southern Branch of Elizabeth River, VA, 2,500 feet upstream of Norfolk & Western Railway bridge and Virginia-North Carolina state line in North Landing River, a distance of 27.2 miles; and 64.6 miles between mouth of Deep Creek, VA, and mouth of Pasquotank River, NC. These routes are shown on National Ocean Service Chart 12206.

Existing project. A channel 12 feet deep at mean low water and 90 to 250 feet wide following southern Branch of Elizabeth River, 5.2 miles, Virginia Land Cut, 8.3 miles, and North Landing River, 13.7 miles; and construction of tidal guard lock at Great Bridge, VA. It also provides channels 10 feet deep at mean low water and 90 to 100 feet wide in Deep Creek, 3.1 miles, Turners Cut, 4.3 miles and Pasquotank River, 35.1 miles; maintaining Dismal Swamp Canal, 22.1 miles, to about 9 feet deep mean canal level over a width of 50 feet; protection of banks in Turners Cut with sheet piling, and cutting curtain sharp points in Pasquotank River to shorten its course. (See Table 5-C at end of chapter on Data Relative to Completed Locks included in Project.) Project includes operating and care of completed locks, dams and bridges. Southern Branch of Elizabeth River and Deep Creek sections of the two routes are tidal, mean range being about 3 feet with extremes of minus 3.5 and plus 9.6 feet. Remaining sections are non-tidal with fluctuations of 1 to 2 feet in level due to winds.

Local cooperation. None required.

Terminal facilities. Existing facilities are considered adequate. See Annual Report for FY 1970.

Operations during fiscal year. Maintenance: Work consisted of operation and ordinary maintenance of the project consisting of real estate management services, condition and operation studies. Operation and care of locks, bridges, spillways, wharves, canal equipment, grounds, roads, buildings, etc. performed by contract. Contracts were awarded to dredge the Dismal Swamp Canal at the Feeder Ditch, install gauges along the Dismal Swamp Canal, repair the roadway to Lake Drummond and install erosion control at the feeder ditch junction with Route 17.

3. ATLANTIC INTRACOASTAL WATERWAY (AIW) BRIDGE REPLACEMENT, DEEP CREEK, CHESAPEAKE, VA

Location. Deep Creek, located in southeastern Virginia within the City of Chesapeake, is the northern terminus of the Dismal Swamp Canal (DSC). The DSC is a portion of the Atlantic Intracoastal Waterway (AIW) that connects the Southern Branch of the Elizabeth River at Deep Creek to the Pasquotank River at South Mills, North Carolina, via Turner's Cut, covering a distance of 64.6 miles. The route of the AIW, extending from New Jersey to Florida, passes through the harbor of Baltimore, Maryland; Norfolk Harbor, Virginia; and down the Southern Branch of the Elizabeth River, to the tidal river Deep Creek, a tributary to the Southern Branch, down to the Deep Creek Locks where the DSC begins. The canal is generally oriented north-south.

Existing projects. Atlantic Intracoastal Waterway Bridge at Deep Creek, Virginia, is Federally owned and Corps operated facility that is functionally obsolete because of its narrow roadway and poor alignment with the connection roads, compounded by increasing traffic volumes. This project is to replace the existing structure in conjunction with the city's and the Commonwealth of Virginia's plans to improve the road system in this area. The new bridge will be a split leaf pit bascule consisting of a 2-lane leaf (eastbound) and a 3-lane leaf (westbound). Once completed, the local sponsor will assume ownership of the bridge and take over operation and maintenance.

Local cooperation. Complied with except that the entire project through construction will be Federally funded. Upon completion of construction, the bridge will be turned over to the City of Chesapeake, Virginia, for operation and maintenance.

Operations during fiscal year. FY02 funds will be used to continue Preconstruction Engineering and Design (PED).

4. ATLANTIC INTRACOASTAL WATERWAY BRIDGE AT GREAT BRIDGE, VA

Location. The project is located in the city of Chesapeake, in the southeastern portion of VA. The city is bordered by the city of Suffolk on the west, the cities of Norfolk and Portsmouth on the North, the city of Virginia Beach on the east, and North Carolina on the south. The federally owned Atlantic Intracoastal Waterway highway bridge crosses the Albermarle and Chesapeake Canal in the community of Great Bridge.

Existing project. The plan of improvement includes replacement of the existing 55-year old, U.S. Army Corps of Engineers, 2-lane swing bridge with a 5-lane, double-leaf, rolling-lift bascule bridge, 2000 LF of approach roadway, utility relocations, and removal of the existing bridge. The feasibility report was approved in Jul 94. Pre-construction engineering and design was initiated during FY 95 and completed in FY 97. Project Cooperation Agreement was executed on 22 Nov 99. The construction contract for the bascule bridge was awarded on 13 Jul 01.

Local cooperation. The local sponsor (city of Chesapeake) is required to assume OMRR&R responsibility on project completion in accordance with the provisions described in Section 339 of the National Highway System Designation Act of 1995. (P.L. 104-59)

Operations during fiscal year. Construction started on the bascule bridge. Federal acquisition of real estate and rights-of-way for the approach roads are in progress. The construction contract for the approach roads is scheduled for 4th Quarter, FY 02.

5. BACK RIVER, POQUOSON, VA

Location. Back River is a tidal estuary located within the cities of Poquoson and Hampton, VA. The project channel joins Front Cove with Back River at Messick Point, near the river's confluence with the Chesapeake Bay. The proposed channel is approximately 3,000 feet long, flows in a southerly direction, and terminates in deep water within Back River. (See National Ocean Service Chart No. 12222.)

Existing project. Provides for a channel 6 feet deep and 60 feet wide from deep water in Back River to the city boat ramp and public landing at Messick Point, a distance of approximately 3,000 feet; also provides a turning basin located adjacent to the boat ramp 100 feet square. Mean tidal range is 2.3 feet.

Local cooperation. Fully complied with. City of Poquoson, VA is the local sponsor.

Terminal facilities. Existing terminal facilities are adequate for present commerce.

Operations during fiscal year. New Work: surveys of the channel and the upland placement area were conducted, plans and specifications were prepared, and a contract was awarded to Cottrell Contracting Corporation of Chesapeake, Virginia for construction of the channel and upland dredged material placement area. The project will be constructed in Federal fiscal year 2002.

6. BENNETT'S CREEK, VA

Location. Bennetts Creek is located on the south shore of the Nansemond River in the City of Suffolk, VA. (See National Ocean Service Chart No. 12248)

Existing project. Provides for a channel 6 feet deep and 60 feet wide over a length of about 1 mile, from the 6-foot contour in the Nansemond River to the 6-foot contour within the mouth of Bennetts Creek, and extending upstream to the city boat ramp at Bennetts Creek Park, a distance of approximately 2.4 miles. Mean range of tide is 2.8 feet.

Local cooperation. Fully complied with. City of Suffolk, VA is the local sponsor.

Terminal facilities. Terminal facilities are adequate for existing commerce.

Operations during fiscal year. The U.S. Army Corps of Engineers Special Purpose Dredge *CURRITUCK* was utilized to dredge the entrance channel during April 2001; the dredged material was placed into the Craney Island Re-handling Basin.

7. CHANNEL TO NEWPORT NEWS, VA

Location. West of north entrance to Norfolk Harbor Channel, connects deep water in James River with Hampton Roads. (See National Ocean Service Chart No. 12245.)

Existing project. A channel 55 feet deep at mean low water and 800 feet wide from Norfolk Harbor Channel in Hampton Roads to Newport News, a distance of about 4.5 miles, and two deep-draft anchorage berths opposite Newport News 45 feet deep over a 1,200-foot swinging radius. Under ordinary conditions mean tidal range is 2.7 feet and extremes 2.1 and 3 feet. Extremes of irregular fluctuations due to combined wind and tides, referred to mean low water, are minus 2 feet and plus 9.5 feet.

Local cooperation. Fully complied with for dredging the channel to an intermediate depth of 50 feet, which was completed December 2, 1988. The local sponsor (Virginia Port Authority) is required to furnish cost sharing in accordance with the provisions described in the Water Resources Development Act of 1986, as amended, for additional deepening.

Terminal facilities. See Port Series No. 11, (Revised 1993) on Ports of Hampton Roads, prepared by the Water Resources Support Center.

Operations during fiscal year. Work on the project consisted of condition surveys of the channel performed.

8. CHINCOTEAGUE INLET, VA

Location. Chincoteague Inlet at the southern end of Assateague Island provides access to

the Atlantic Ocean from the inland waterway near the town of Chincoteague, VA. (See National Ocean Service Chart 12211.)

Existing project. Provides for a channel 12 feet deep and 150 feet wide across the ocean bar in the Atlantic Ocean and to the mouth of the inlet, a channel 9 feet deep and 100 feet wide from the inlet through the canal, and then along Chincoteague Channel to a point approximately 2,000 feet north of the state highway bridge to Chincoteague, a distance of about 6.6 miles. Mean range of tide is about 3 feet. All depths are referred to mean low water.

Local cooperation. Fully complied with. For details see Annual Report for 1974.

Terminal facilities. Existing facilities at Chincoteague are considered adequate for current and prospective traffic.

Operations during fiscal year. Work on the project consisted of condition surveys of the channel.

9. GUILFORD CREEK, VA

Location. Guilford Creek is located in Accomack County, VA, near the communities of Guilford and Parksley, VA, and is tributary to the Chesapeake Bay. (See National Ocean Service Chart No. 12225.)

Existing project. Provides for a channel 6 feet deep and 60 feet wide over a length of about 1 mile, from Beasley Bay into Guilford Creek, and including a turning basin 6 feet deep and 100 feet square. The project also includes construction of a rock groin approximately 140 feet long at the dredged material placement site. Mean range of tide is 2.3 feet.

Local cooperation. Fully complied with. County of Accomack, VA is the local sponsor.

Terminal facilities. Existing terminal facilities are adequate for present commerce.

Operations during fiscal year. None.

10. HAMPTON ROADS, VA

COLLECTION AND REMOVAL OF DRIFT

Location. Hampton Roads is a natural harbor 300 miles south of New York and 180 miles south of Washington, DC. Its principal tributaries are the James River, affording a natural deep harbor at Newport News, VA; Elizabeth River, with its Southern, Eastern, and Western Branches providing harbors for Norfolk and Portsmouth, VA; and Hampton Creek, serving the harbor at Hampton, VA. (See National Ocean Service Chart Nos. 12248,12245 and 12253.)

Existing project. Collection and removal of drift in Hampton Roads and its tributary waters authorizes the Secretary of the Army to allot necessary amounts of work from appropriations for main-other available appropriations and that this work shall be carded on as a separate and distinct project. It is wholly a work of maintenance. The purpose of work is to afford relief from variable conditions of obstruction. No advance estimate of the amount of work is required.

Local cooperation. None required.

Terminal facilities. See Norfolk Harbor, VA, and Channel to Newport News, VA.

Operations during fiscal year. Maintenance: Operation of the project resulted in collection and disposal of a variety of floating refuse. Operations were performed using government plant and hired labor.

11. HOSKINS CREEK, VA

Location. Hoskins Creek is a tidal estuary 2.5 miles long flowing easterly and entering the right bank of the Rappahannock River in Essex County, VA, 42 miles upstream from its mouth in the Chesapeake Bay. It is located at the southern limits of the Town of Tappahannock, VA. (See National Ocean Service Chart No. 12237)

Existing project. Provides for a channel 10 feet deep at mean low water from the 10-foot contour in the Rappahannock River to the US Route-17 Bridge, a distance of approximately 1 mile. The channel width is 100 feet through the bar in the Rappahannock River and 80 feet within the creek.

Also provides a turning basin of the same depth 250 feet by 200 feet, with flared approaches, at the public landing. Mean tidal range is about 1.6 feet.

Local cooperation. Fully complied with. County of Essex, VA is the local sponsor.

Terminal facilities. Two bulkheaded landings and two wharves, with a public boat ramp. Terminal facilities are adequate for existing commerce.

Operations during fiscal year. A condition survey performed in September 2000 was distributed to the locals, Coast Guard and users of the project.

12. JAMES RIVER, VA

Location. The river is formed by the junction of the Cowpasture and Jackson Rivers in Botetourt County, VA, flows east 340 miles and empties into Hampton Roads at Newport News, VA. (See National Ocean Service Chart Nos. 12248 and 12251.)

Existing project. A channel 25 feet deep and 300 feet wide from the mouth to Hopewell, 25 feet deep and 200 feet from Hopewell to the Richmond Deepwater Terminal, and a channel 18 feet deep and 200 feet wide from the Deepwater terminal to Richmond Lock, a mooring basin 25 feet deep, 180 to 220 feet wide and 2,100 feet long alongside the channel opposite waterfront at Hopewell; a turning basin at Richmond Deepwater Terminal to 500 feet wide, 2,770 feet long and 25 feet deep; a turning basin in Richmond Harbor 200 feet wide, 600 feet long and 18 feet deep; and construction of spur and training dikes. Depth of channels is referred to mean low water. Total length of channel included in the project is 91 miles, which is the navigable section. Mean tidal ranges under ordinary conditions for different parts of the river are: mouth, 2.6 feet; Jamestown, 2 feet; City Point, 2.6 feet; and Richmond, 3.2 feet. Spring tide ranges under ordinary conditions at the same localities are mouth, 3.1 feet; Jamestown, 2.4 feet; City Point, 3 feet; Richmond, 3.2 feet. Ordinary fluctuations of stage at Richmond, due to floods are 6 to 12 feet above mean low water. Extreme fluctuations are 16 to 32 feet. Flood heights below Richmond diminish rapidly. The extreme according to available information is about 11 feet lower at Dutch gap, 14 miles below and 17 to 18 feet lower, 20 miles below. For previous projects, see Annual Report for 1938.

Local cooperation. Fully complied with for conditions imposed by River and Harbor Act of 1962. However, the local sponsor (City of Richmond) is required to furnish cost sharing in accordance with the provisions described in the Water Resources Development Act of 1986, as amended. Deepening the project from 25 feet to 35 feet, and the widening, authorized by the River and Harbor Act of 1962 has not been started.

Terminal facilities. There are city-owned wharves at Richmond Harbor and at Richmond Deepwater Terminal, and numerous private facilities elsewhere on the James River. The Deepwater Terminal is at the head of the 25-foot deep improved channel, and it serves oceangoing vessels and larger ships engaged in coast-wide trading. For detailed information on the terminal facilities on the James River, see Port Series No. 11, (Revised 1993) on Ports of Hampton Roads, prepared by the Water Resources Support Center. Existing terminal facilities are adequate for present commerce.

Operations during fiscal year. Maintenance dredging was performed under an Indefinite Quantities Contract to remove shoals on several areas of the James River; at Dancing Point – Swann Point Shoal Channel, at Goose Hill Channel, Jordan Point-Harrison Bar-Windmill Point Shoal Channel, and Richmond Deepwater Terminal. Related work performed during the year included condition surveys, environmental and archeological studies, and engineering investigations related to shoaling, river currents and realignments at Goose Hill Channel and Tribell Shoal Channel.

13. JONES CREEK, VA

Location. Jones Creek is a tributary to the Pagan River, in Isle of Wight County on the southwest shore of the James River. (See National Ocean Service Chart No. 12248.)

Existing project. Provides for a channel 6 feet deep and 60 feet wide over a length of about 5,000 feet, from the Pagan River into Jones Creek and as far upstream as the State Highway Route 704 Bridge at Rescue, VA.

Local cooperation. Fully complied with. County of Isle of Wight, VA is the local sponsor.

Terminal facilities. Existing terminal facilities at Rescue, VA are adequate for present commerce.

Operations during fiscal year. None.

14. LYNNHAVEN INLET, VA

Location. On the south shore of the Chesapeake Bay, 5 miles west of Cape Henry, and 10 miles east of Norfolk, VA, the inlet connects Lynnhaven Roads, a part of the Chesapeake Bay, with a network of inland waters in the northern half of the city of VA Beach. (See National Ocean Survey Chart 12254.)

Existing project. An entrance channel from Chesapeake Bay through Lynnhaven Inlet, 10 feet deep and 150 feet wide; a mooring and turning basin inside of Lynnhaven Inlet, 10 feet deep, 1,100 feet long, and 750 feet wide; a channel 9 feet deep and 90 feet wide to extend from the mooring and turning basin into Broad Bay via Long Creek-Broad Bay Canal, a side channel from the basin into Long Creek at a depth of 8 feet and width of 100 feet, and a channel through the Narrows connecting Broad and Linkhorn Bays, 6 feet deep and 90 feet wide. Mean range of tide in Lynnhaven Inlet is about 2 feet with extreme fluctuations of 1.5 feet below and 9.5 feet above mean low water. Range in Lynnhaven Bay is a little more than 2 feet, in Broad and Linkhorn Bays, fluctuations in water level are caused by local winds.

Local cooperation. Fully complied with. The city of Virginia Beach is the local project sponsor. For details see page 308 of Annual Report for 1965.

Terminal facilities. Existing facilities are considered adequate. For details see page 308 of Annual Report for 1970.

Operations during fiscal year. A dredging contract was awarded in FY 01 for removal of 165,800 CY from the entrance channel, mooring basin, and channel to Broad Bay.

15. NANDUA CREEK, VA

Location. Nandua Creek is located within the County of Accomack, VA, about 10 miles south of Watts Island light, and is a tributary to the Chesapeake Bay. (See National Ocean Service Chart No. 12226)

Existing project. Provides for a channel 9 feet deep at mean low water and 100 feet wide across the bar at the mouth of the creek. Mean tidal range is about 1.6 feet.

Local cooperation. None required.

Terminal facilities. Terminal facilities are adequate for existing commerce.

Operations during fiscal year. A condition survey of the channel was performed.

16. NEWPORT NEWS CREEK, VA

Location. On the southern end of the peninsula between the James and York Rivers and within the corporate limits of the city of Newport News. (See National Ocean Survey Chart 12245.)

Existing project. A channel 12 feet deep and with width varying from 150 to 90 feet, from deep water in Hampton Roads to the municipal boat harbor, and including a turning and anchorage basin at the upper end of the same depth, width varying from 188 to 214 feet, and 500 feet in length. Under a Section 107 modification, a portion of the entrance channel 125 feet wide is being deepened to 18 feet, to connect with the adjacent harbor protected with an L-shaped wave screen. Portions of this harbor are also being deepened to 18 feet under Section 107 authority. Mean range of tide is 2.6 feet.

Local cooperation. Fully complied with. The city of Newport News is the local project sponsor.

Terminal facilities. Existing facilities are considered adequate, and the local sponsor is constructing a new pier to service commercial vessels.

Operations during fiscal year. None.

17. NORFOLK HARBOR AND CHANNELS, VA.

Location. Norfolk, VA, is 187 miles south of Baltimore, MD, and 30 miles from entrance to Chesapeake Bay at Cape Charles and Cape Henry. Harbor extends 18.3 miles from 40-foot contour in Hampton Roads to a point 2,500 feet above Norfolk and Western Railway bridge over a Southern Branch of Elizabeth River. (See National Ocean Service Chart Nos. 12245 and 12253.)

Previous projects. For details see Annual Report for 1938.

Existing project. For details see Annual Report for 1993.

HAMPTON ROADS AND ELIZABETH RIVER: A channel 55 feet deep and 1,500 feet wide from that depth in Hampton Roads to a point approximately 6.3 miles upstream from the Hampton Roads Bridge-Tunnel; thence 55 feet deep and 800 feet wide to Lamberts Point; thence 45 feet deep and 750 feet wide to the junction of Southern Branch and Eastern Branch.

Operations during fiscal year. The District is completing Preconstruction, Engineering and Design (PED) for the 50-Foot Inbound Element. Plans and Specifications are underway and a Project Cooperation Agreement is being developed and negotiated with the Non-Federal Sponsor. Construction scheduled for initiation in clendar year 2002.

EASTERN BRANCH: A channel 25 feet deep and 500 feet wide from the junction of the branches to Norfolk and Western Railway Bridge, from the Norfolk and Western Railway Bridge a channel 25 feet deep and 200 feet wide to the Campostella Bridge, channel 25 feet deep and 200 feet wide to the Norfolk and Western Railway Bridge (formerly Virginian), including a turning basin 25 feet deep and approximately 5.5 acres in size located at the upstream end of the project.

WESTERN BRANCH: A channel 24 feet deep and 300 feet wide to a point 0.78 mile from the 40-foot channel, thence 24 feet deep and 200 feet wide for a distance of 0.38 mile; thence 18 feet deep and 150 feet wide for 0.57 mile to a point 0.34 mile above the West Norfolk Bridge.

SCOTTS CREEK: A channel 12 feet deep at mean low water and 100 feet wide from the 40-foot channel for a distance of 0.73 mile.

ANCHORAGE, SEWELLS POINT: Three fixed mooring anchorage facilities with a depth of 55 feet, each capable of accommodating two large vessels simultaneously; two anchorages opposite Sewells Point, 45 feet deep over a swing radius of 2,300 feet; anchorage area on the west side of the 55-foot channel opposite Lamberts Point aggregating 173 acres consisting of open space 1,500 feet square and 38 feet deep, one space 1,500 feet square and 35 feet deep, and one space 3,000 feet long, 1,000 feet wide and 20 feet deep; and 45-acre anchorage, 12 feet deep, near Pinners Point.

SOUTHERN BRANCH: The southern branch of the Elizabeth River generally oriented and flows south to north, and in the vicinity of this project is bordered on the east bank by the city of Chesapeake. The Southern Branch 40 Foot Deepening element will deepen a 2.5 mile section of the Elizabeth River from its current depth of 35 feet to 40 feet between the Norfolk and Western Railroad Bridge at mile 15, upstream to the U.S. Routes 460 and 13 highway bridge (also known as Gilmerton Bridge) at mile 17.5. This reach of the channel ranges in width between 250 and 500 feet, with an average width of 300 feet. The channel will be widened at selected points to permit vessels to safely negotiate bends. At mile 17.5, in the vicinity of the Gilmerton Bridge, an 800 foot turning basin with a depth of 40 feet will be constructed. In addition, the possible need for modifying the Gilmerton Bridge will be explored as part of this project.

Operations during fiscal year. Planning, engineering and design were temporarily postponed due to questions of local sponsorship. Coordination continued with the local sponsor and other agencies regarding scheduling of additional deepening.

Anchorages: Three fixed mooring anchorage facilities with a depth of 55 feet, each capable of accommodating two large vessels simultaneously; two anchorages opposite Sewells Point, 45 feet deep over a swing radius of 2,300 feet;

anchorage area on the west side of the 55-foot channel opposite Lamberts Point aggregating 173 acres consisting of open space 1,500 feet square and 38 feet deep, one space 1,500 feet square and 35 feet deep, and one space 3,000 feet long, 1,000 feet wide and 20 feet deep; and a 45-acre anchorage, 12 feet deep, near Pinners Point.

Operations during fiscal year. The District developed and negotiated the Project Cooperation Agreement on the proposed 50-foot anchorage improvement with the non-federal sponsor, the Virginia Port Authority. Construction of the 50-foot anchorages was initiated in May 1999 and completed in October 1999.

CRANEY ISLAND DREDGED MATERIAL AREA: A dredge material placement area of about 2,500 acres adjacent to and north of Portsmouth, Virginia, enclosed by stone-faced levee of sand; re-handling basin, approach and exit channels connecting re-handling basin and Norfolk Harbor 55-foot channel.

Operations during fiscal year. Craney Island received 3,111,362,000 cubic yards of dredged material in FY 2001. A levee construction contract for Craney Island was awarded and completed in FY 2001.

Local cooperation. Fully complied with for dredging the channel to an intermediate depth of 50 feet, which was completed December 15, 1988. The local sponsor (Virginia Port Authority) is required to furnish cost sharing in accordance with the provisions described in the Water Resources Development Act of 1986, as amended for additional deepening.

Terminal facilities. See Port Series No. 11 (revised 1993) on Ports of Hampton Roads, prepared by the Water Resources Support Center.

NORFOLK HARBOR CHANNEL:

Operations during fiscal year. Maintenance: A contract to dredge the 45-Ft. and 50-Ft. Channels was awarded in February 2001, with work completed in May 2001; a total of 687,399 cubic yards was removed. In addition to maintenance dredging, work on the project included condition surveys and environmental studies.

18. OYSTER CHANNEL, VA

Location. Oyster Channel is located in Northampton County, Virginia, at the town of Oyster, VA, and is a tributary of Liscombes Channel and Ramshorn Channel on the Virginia Eastern Shore. (See National Ocean Service Chart No. 12224)

Existing project. Provides for a channel 6 feet deep and 80 feet wide from deep water in Liscombes Channel to and including a turning basin 6 feet deep and 1,100 feet long at Oyster, VA.

Local cooperation. Fully complied with. The county of Northampton, VA, is the local sponsor.

Terminal facilities. Existing terminal facilities are adequate for the present commerce.

Operations during fiscal year. None.

19. RUDEE INLET, VA

the City of Virginia Beach, approximately 5 miles south of Cape Henry. (See National Ocean Service Chart No. 12205.)

Existing Project. An entrance channel 10 feet deep, 100 to 72 feet wide and 1,605 feet long; an inner channel 7 feet deep, 72 to 53 feet wide and 2,495 feet long, including a safety area 7 feet deep, and approximately 1.9 acres in size and a turning basin 7 feet deep, 175 feet wide and 1,570 feet long; a sand trap 18 feet deep and approximately 3.3 acres in size; and a weir and jetty system at the mouth of the inlet. Mean tidal range is about 3.3 feet.

Local cooperation. Fully complied with. The City of Virginia Beach as local sponsor is required to financially participate in continued annual maintenance as described in the Local Cooperation Agreement, and has fully participated through the current fiscal year.

Terminal facilities. Existing terminal facilities are considered adequate for present commerce.

Operations during fiscal year. A contract to dredge the entrance channel and sand trap was advertised for bids in February 2001 and bids were opened during March 2001. The contract was

completed in May 2001; a total of 32,890 cubic yards was removed. In addition, the U.S. Army Corps of Engineers Special Purpose Dredge *CURRITUCK* was utilized to dredge the entrance channel during October 2000, and March and September 2001; a total of 16,040 cubic yards was removed.

20. SUPERVISOR OF NORFOLK HARBOR (PREVENTION OF OBSTRUCTIVE AND INJURIOUS DEPOSITS)

The District Engineer, Norfolk District, was designated Supervisor of the harbor of Hampton Roads under the provisions of the River and Harbor Act of June 29, 1888 (33 U.S.C. 441-451), as amended July 12,1952. Under this Act, the Supervisor of the harbor of Hampton Roads is charged with the mission of preventing the deposit of obstructive and injurious materials in the tidal waters of the harbors of Norfolk, Portsmouth, Newport News, Hampton Roads, and their adjacent and tributary waters, so much of the Chesapeake Bay and its tributaries as lies within the state of Virginia, and so much of the Atlantic Ocean and its tributaries as lies within the jurisdiction of the United States within or to the east of the State of Virginia. The River and Harbor Act of March 3, 1899 (33 U.S.C. 403,407,409), as amended, prohibits obstructions to navigable waters such as unauthorized structures, unauthorized fill, deposit of refuse, and sinking of vessels. Other laws relating to the supervision of Norfolk Harbor and its tributary waters are the Clean Water Act, The Marine Protection, Research and Sanctuaries Act of 1972, the Coastal Zone Management Act of 1969, the Fish and Wildlife Act of 1956, the Federal Power Act of 1920, the National Historic Prevention Act of 1966, the Endangered Species Act of 1973, the Deepwater Port Act of 1972, the Wild and Scenic Rivers Act, and the Land and Water Conservation Fund Act. Direct supervision of the waters under the jurisdiction of the Norfolk District was accomplished by means of two patrol vessels performing inspections, removing debris and investigating navigational hazards and sunken abandoned vessels. A derrick boat and crane barge performs removal of sunken vessels and navigational hazards and supports federal dredging projects. In addition, surveillance of the harbor was performed regarding the Corps' regulatory program, using also two small outboard craft, motor vehicles from land and occasional chartered aerial reconnaissance. This regulatory surveillance involved compliance surveys of permitted activities and evaluation of navigational impacts of proposed piers and other structures.

21. THIMBLE SHOAL CHANNEL, VA

Location. In the lower portion of Chesapeake Bay between Hampton Roads and the ocean, 20 miles northeast of center of Norfolk Harbor, extending southeasterly 12 miles from a point 1.25 miles east of Thimble Shoal lighthouse toward entrance to Chesapeake Bay. (See National Ocean Service Chart No. 12222.)

Existing project. Provides for dredging a channel 12 miles long, 1,000 feet wide, and 55 feet deep at mean low water. To date the 650-ft. wide outbound lane has been deepened and maintained to a depth of 50 feet, and the remaining 350-ft. width is maintained at a 45-ft. depth under the previous project. Under ordinary conditions mean tidal range is 2.5 feet and extreme 3 feet. Extremes of irregular fluctuation, due to combined wind and tides referred to mean low water, are minus 3 feet and plus 7 feet.

Local cooperation. Fully complied with. For the most recent improvements to the channel (50-ft. depth over 650-ft. wide outbound lane), the Virginia Port Authority was project sponsor and shared in the cost of the improvement.

Terminal facilities. Project serves as an entrance channel to Hampton Roads. See Port Series No. 11 (revised 1993) on Ports of Hampton Roads, prepared by the Water Resources Support Center.

Operations During Fiscal Year. Work consisted of condition surveys of the channel and monitoring of the Dam Neck Ocean Dredged Material Management Site as required by the EPA.

22. TYLERS BEACH, VA

Location. Tylers Beach is located on the south shore of the James River in the County of Isle of Wight, VA, in a deep depression known as Burwells Bay about 13 miles above the mouth of the James River. (See National Ocean Service Chart No. 12248)

Existing project. Provides for a harbor of refuge 6 feet deep at mean low water and 150 feet wide and 300 feet long just south of Tylers Beach and a channel 6 feet deep, 50 feet wide, and about

2,350 feet long from that depth in Burwells Bay to the harbor of refuge. The project also includes two stone revetments/jetty structures approximately 370 feet long. Mean tidal range is about 2.4 feet.

Local cooperation. Fully complied with. County of Isle of Wight, VA is the local sponsor.

Terminal facilities. Terminal facilities are adequate for existing commerce.

Operations during fiscal year. Coordination with the local sponsor was performed.

23. WATERWAY ON THE COAST OF VA

Location. Between barrier beach along Atlantic Ocean on the east and Virginia poirtion of mainland peninsula on the west. It extends for approximately 90 miles from south end of Chincoteague Bay through a number of creeks, thoroughfares and bays to enter Chesapeake Bay in the vicinity of Fisherman Island, just south of Cape Charles on the southern tip of the peninsula. (See National Ocean Service Chart Nos. 12210, 12211, and 12221.)

Existing projects. A waterway 6 feet deep at mean low water and 60 feet wide from Chesapeake Bay to Chincoteague Bay, VA. Mean range of tide is about 3 feet. Greater fluctuations in water level are caused by high winds and storms. A modification of the project approved during 170under Section 201 of the Flood Control Act of 1965 authorized relocation of portions of the waterway and widening of 100 feet.

Local cooperation. Complied with except that local interests are to furnish spoil disposal areas for future maintenance.

Terminal facilities. Existing facilities are considered adequate.

Operations during fiscal year. A dredging contract was awarded in FY 01 to dredge shoals in Sloop Channel (34,045 cy total) and North Channel (102, 223 cy total). Other project costs for FY 01 included engineering and design for current and out-year dredging contracts, environmental operations, and project condition surveys.

24. WINTER HARBOR, VA

Location. Winter Harbor is a tidal estuary located in Mathews County, VA entering the Chesapeake Bay on its western shore 4.9 miles north of New Point Comfort. (See National Ocean Service Chart No. 12238)

Existing project. Provides for a channel 12 feet deep at mean low water and 100 feet wide from the 12-foot contour in Chesapeake Bay to the vicinity of the public landing, a distance of approximately 7,600 feet. Also provides a mooring and turning basin of the same depth 400 feet square, with flared approaches, at the inner end of the channel. Until channel traffic indicates a need for a change, the channel will be maintained to a depth of 6 feet. Mean tidal range is about 2.0 feet.

Local cooperation. Fully complied with. County of Mathews, VA is the local sponsor.

Terminal facilities. Terminal facilities are adequate for existing commerce.

Operations during fiscal year. Coordination with the local sponsor and environmental agencies was continued. Additionally, a condition survey of the channel was performed, and the preparation of plans and specifications in anticipation of dredging was commenced.

25. YORK RIVER, VA

Location. This river is formed at West Point, VA by the confluence of the Mattaponi and Pamunkey Rivers, and flows southeasterly about 41 miles into the Chesapeake Bay, which it enters about 20 miles in a northerly direction from Norfolk, VA, and 20 miles in a northwesterly direction from the Atlantic Ocean at Cape Henry. (See National Ocean Service Chart Nos. 12238 and 12243.)

Existing project. This provides for dredging a channel 22 feet deep at mean low water and 400 feet wide through the bars, and a basin of the same depth at the wharves at West Point, and the construction of a dike on the right bank at West Point to assist in maintaining the channel. Also provides for dredging a channel 37 feet deep at mean lower low water and 750 feet wide from the 38 foot contour in the Chesapeake Bay to a point adjacent to the piers at the

Yorktown Naval Weapons Station, approximately 8 miles above the mouth of the river. Mean range of tide is 2.2 feet at the mouth and 2.9 feet at West Point.

Local cooperation. Fully complied with. Virginia Port Authority was project sponsor and shared in the cost of the improvement to the Entrance Channel.

Terminal facilities. The facilities are considered adequate for the existing commerce.

Operations during fiscal year. None.

BEACH EROSION CONTROL PROJECTS

26. CHESAPEAKE BAY SHORELINE, HAMPTON, VA

Location. The city of Hampton is located approximately 135 miles southeast of Washington, D.C. at the junction of Hampton Roads and the Chesapeake Bay. The city is bordered by the Chesapeake Bay on the east; the Chesapeake Bay and Hampton Roads harbor on the south; the city of Newport News on the west; and York County, the city of Poquoson, and the Chesapeake Bay on the north. The city has approximately 6 miles of shoreline which fronts on the Chesapeake Bay and includes the areas of Buckroe Beach, Salt Ponds, White Marsh, Grandview, and Grandview Nature Preserve. The location and orientation of this shoreline on the western side of the southern Chesapeake Bay and immediately within the mouth of the bay have made this area susceptible to damages associated with coastal storms such as hurricanes and northeasters. (See National Ocean Service Chart No. 12222.)

Existing Projects. There are a variety of existing coastal protection structures located along the beach within the study area including groins, bulkheads, riprap, and jetties. The condition of these structures ranges from good to completely deteriorated, with ages varying from relatively new to 35 years old. In addition, the city of Hampton has conducted several beach nourishment activities in the study area to provide storm protection and to alleviate the erosion problem, primarily along the public section of Buckroe Beach. However, these projects have been small in scope, given the limited resources of the city.

A reconnaissance study was initiated in 1994 under the authority of Section 114 of WRDA 92. The subsequent reconnaissance report, completed and approved in 1995, concluded that several beach nourishment plans of various heights, widths, and renourishment intervals along the public portion of Buckroe Beach are feasible. However, the study process was terminated shortly thereafter, because the plans contained long-term beach renourishment, which was against (then) new Administration policy. Consequently, no funds were budgeted for the study in subsequent fiscal years. In Fiscal Year 1999, funds were added to the budget by Congress, thus allowing continuation of the study process into the feasibility phase. Congress again added funds in Fiscal Years 2000 and 2001. The estimated cost of this phase is $1.308 million, which is being cost shared 50-50. The study was initiated in April 1999 and is scheduled for completion 36 months later in April 2002.

Local cooperation. The local sponsor, the city of Hampton, signed the FCSA on 29 March 1999.

Operations during fiscal year. The feasibility study will evaluate a variety of non-structural and structural plans of improvement for hurricane and storm damage protection for the shoreline. FY 99 funds were used to initiate the feasibility study with activities such as starting in-depth coordination with the local sponsor, gathering existing data, awarding the first of several contracts, and beginning the field work. FY 00 funds were used to continue coordination with the local sponsor, to complete the gathering of existing data, to conduct several public meetings with property owners in the study area, to award several more contracts, to complete the field work, to conduct detailed analyses based on existing data and data acquired during the field work, to begin formulating and evaluating plans, and to begin report preparation.

27. VIRGINIA BEACH, VA (HURRICANE PROTECTION)

Location. The city of Virginia Beach is located on the southeastern coast of Virginia

bordered by the Atlantic Ocean on the east, Chesapeake Bay on the north, the cities of Norfolk and Chesapeake on the west, and North Carolina on the south (See National Ocean Service Chart 12207.)

Existing project. The plan of improvement includes construction of a vertical steel sheet-pile wall with concrete cap extending from Rudee Inlet to 58th Street (about 4 miles), enhancement of the existing dune system between 58th Street and 89th Street (about 2 miles), construction and periodic re-nourishment of a widened and raised beach berm between Rudee Inlet and 89th Street (about 6.2 miles), a new boardwalk integrated with the vertical wall which will be placed seaward of the existing boardwalk extending from Rudee Inlet to approximately 40th Street (about 3 miles), a storm water runoff system consisting of the offshore discharge by pumped flow through submarine pipelines, appropriate beach access structures consisting of ramps and stairs and dune crossover facilities. Periodic beach nourishment will maintain the beach and dune system over the 50 year project life. The Project Cooperation Agreement was executed in June 1996 and the first construction contract was underway in October, 1996. Initial construction of the project is scheduled for completion in September 2002.

Local cooperation. The local sponsor (city of Virginia Beach) is required to furnish cost sharing in accordance with the provisions described in The Water Resources Development Act of 1986.

Operations during fiscal year. The project was in continuing construction: All project segments are complete with the exception of: the Beach Berm is scheduled for completion in May 02, the dune improvements and crossovers are scheduled for completion in May 02. The 79th Street outfall is under design and scheduled for construction contract award prior to end of FY02.

FLOOD CONTROL PROJECTS

28. GATHRIGHT DAM AND LAKE MOOMAW, VA

Location. Gathright Dam is on the Jackson River, a tributary of James River at mile 43.4 in Allegheny County. Gathright Dam site is in the reach of the Jackson River known as the Gorge, about 19 miles upstream from Covington, VA. At the elevation of the top of the conservation pool, the lake extends upstream about 9 miles. (See Falling Spring and Mountain Grove, Virginia-West Virginia quadrangles of geological survey.)

Existing project. Gathright Dam consists of a 1,172-foot long, rolled-rock-fill dam with an impervious core, with the top at elevation 1,684.5; outlet works consisting of a concrete intake structure located in the right bank 500 feet upstream from the axis of the dam: a 1,075-foot long outlet tunnel through the right abutment and a stilling basin; and a 2,450-foot long fixed-crest emergency spillway excavated in a low saddle in the divide at Fortney Branch about 2.5 miles south of the dam. Discharges through the maximum conservation poot elevation 1,582 will be provided for water quality control. The reservoir area at elevation 1,582 will be 2,530 acres. A total of 302,000 acre-feet of storage between elevation 1,582 and the spillway crest (elevation 1,663.5) will be reserved for flood control. At the spillway crest the reservoir will have an area of 4,540 acres.

Local cooperation. None required.

Operations during fiscal year. Care of service and recreational facilities, water control management, testing and monitoring, supervision and administration and engineering and design. A contract to repair and replace several roofs was completed in 2001.

29. EMERGENCY FLOOD CONTROL ACTIVITIES

During FY 01, a total of $86,572 was spent on Catastrophic Disaster Preparedness Program (Approp. 96X3123), and $392,924 on Flood Control and Coastal Emergencies including Emergency Operations (Approp. 96X3125).

ENVIRONMENTAL RESTORATION PROJECTS

30. TANGIER ISLAND, VA

Location. Tangier Island is located in the Chesapeake Bay approximately 95 miles Southeast of Washington, DC, and is enti4rely within the political boundaries of Accomack County on Virginia's Eastern Shore. The island is about 5 miles long and 1-1/2 miles wide, and, with the exception of three sand ridges, it composed of low marshland and tidal flats. Over 50 percent of the submerged aquatic vegetation (SAV) in the waters adjacent to the idland have been lost during the 1990s. SAV is prime habitat for young blue crabs. Since these waters are a significant crab nursery for the Chesapeake Bay, the economic impact could be severe. (See National Ocean Service Chart No. 12228.)

Existing Projects. Three Corps of Engineers projects are located in the vicinity of the island. The Tangier Channel to the Chesapeake Bay (or North Channel) provides a channel 7 feet deep and 60 feet wide from the anchorage basin at the town of Tangier, northwesterly through Tangier Creek to the Chesapeake Bay, a distance of 0.7 mile. The anchorage basin is 7 feet deep and 400 feet square. The Tangier Channel to Tangier Sound provides a channel which approaches the island from the east and is 8 feet deep and 100 feet wide and 0.2 mile long in Tangier Sound; thence 8 feet deep and 60 feet wide and 0.9 mile long to the anchorage basin. The Tangier Seawall project provides over one mile of shore protection to the island's west coast, south of the North Channel.

Local cooperation. The local sponsors for the study are 6the Town of Tangier and Accomack County, both of whom strongly support these studies.

Terminal facilities. The existing facilities at Tangier are considered adequate for current and prospective traffic.

Operations during fiscal year. Funds were received in FY 2001 to prepare a Preliminary Restoration Plan under Section 206 of the Continuing Authorities Program.

GENERAL INVESTIGATION PROJECTS

31. WORK UNDER CONTINUING AUTHORITY PROGRAM

The district continues work on six Section 107 (navigation) studies: York River Entrance Channel, VA, has completed construction and project close-out activities have been initiated; Newport News Creek, VA, has completed construction and project close-out activities have been initiated; Guilford Creek, VA, has completed construction and project close-out activities have been initiated; Messick Point, Back River, VA, continuing the Plans & Spec (P&S) phase, Starlings Creek, VA continuing the feasibility phase; Nassawaddox Creek, VA, initiating the feasibility phase. In addition, the district continues work on one Section 205 (Small Flood Control) study, Jamestown Island, VA, initiating the feasibility phase.

32. GENERAL INVESTIGATION SURVEYS

Total cost of surveys during the fiscal year amounted to $2,261,147. The work consisted of feasibility studies for Elizabeth River $232,400, Craney Island $778,300 (Fed)/ $279,100 (non-Fed), Hampton Shoreline $193,400 (Fed)/ $184,800 (non-Fed) , Deep Creek $372,747, and Embry Dam $20,800. Also work consisted of Interagency Water Resources Development $28,900; Special Investigations, $33,400; FPMS and Section 22 $137,300.

33. COLLECTION AND STUDY OF BASIC DATA

During the fiscal year 01, cost of collection and study of basic data was $192,000 consisting of flood plain management studies including Quick Responses, Management Service Unit, Technical Services and Environmental Data Studies and special studies.